American Dynamics

From Tyco Security Products

VideoEdge Camera Handler Release Notes

VideoEdge 4.4
Camera Handler 4.4.0.13001

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8200-1029-01 B0

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American Dynamics

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General Purpose

The purpose of this document is to provide a detailed list of supported manufacturers and manufacturers' camera lines integrated and supported by the American Dynamics VideoEdge Network Video Recorder version 4.4 and the VideoEdge Camera Handler version 4.4.

Cameras and Encoders supported and available with current version 4.4:

- American Dynamics
  - •American Dynamics Eight Channel Encoder
  - •American Dynamics Fixed IP
  - •American Dynamics Illustra 210 Series
  - •American Dynamics Illustra 400 Series
  - •American Dynamics Illustra 600/600LT/610/610LT Series
  - •American Dynamics Illustra 625 PTZ Cameras
  - •American Dynamics Illustra 600/610 Compact Mini-Dome
  - •American Dynamics IP SpeedDome Cameras
- ACTi Corporation Cameras
- Arecont Vision Cameras
- AXIS Cameras and Encoders
- Bosch Cameras
- CBC Cameras
- FLIR
- ONVIF
- Panasonic Cameras
- Samsung Encoders and Cameras
- SONY Encoders and Cameras
- Vivotek Encoders and Cameras

Note

1. You can upgrade your VideoEdge Camera Handler version at http://www.americandynamics.net

2. Please reference NVR Installation and User Manual to Configure Storage. NVRs can require a tremendous amount of storage space depending on the number of cameras, codec, resolution, and frame rates, recording modes, and the duration for which you wish to preserve video recordings. At the outset of your use of the NVR system, you will need to have storage configured to record data

Bit Rate Controls on Supported Cameras for H.264 and MPEG4

Video stream configuration for supported cameras now have the ability to select a bit rate control for H.264 and MPEG4. Depending on the camera, bit rate control can be either variable bit rate, constrained bit rate, constant bit rate or constant quality.

ONVIF Camera Handler

An ONVIF compliant camera handler has been added to the VideoEdge NVR so that any ONVIF compliant camera can be added to the system.

NVR GUI Device Handler Name Mapping for Camera Model Support

	NVR GUI Device Handler Name	Camera Model Support	Handler Version Number
1	AD 8 Channel Encoder	AD 8 Channel Encoder	4.4.0.724
2	AD VideoEdge IP Camera	AD Fixed	4.4.0.724
3	AD Illustra iAPI1	Illustra 400 Illustra 600C Box Illustra 600/610/LT Box/Bullet	4.4.0.724
4	AD IP SpeedDome	IP SpeedDome	4.4.0.724
5	AD Illustra iAPI2	Illustra 600/610/LT Dome Illustra 210 Dome	4.4.0.724
6	AD 1 Channel Encoder CN	ADSTE	4.4.0.724
7	AD Illustra iAPI3	Illustra 625 PTZ Illustra 600 Compact Mini Dome	4.4.0.18018
8	ONVIF	ONVIF	4.4.0.724
9	ACTI	ACTI	4.4.0.724
10	AXIS	AXIS	4.4.0.724
11	Arecont Vision	Arecont	4.4.0.724
12	Arecont Vision	CBC	4.4.0.724
13	Bosch	Bosch	4.4.0.13001

	NVR GUI Device Handler Name	Camera Model Support	Handler Version Number
14	FLIR	FLIR	4.4.0.724
15	Panasonic	Panasonic	4.4.0.724
16	SONY	SONY	4.4.0.724
17	Samsung	Samsung	4.4.0.724
18	Vivotek	Vivotek	4.4.0.724

What's New in This Release

Support for the following Bosch cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Bosch VG4 Series Cameras					
VG4-100 Series	H.264, MJPEG	Yes	2/0	4.4	Works as designed
VG4-200 Series	H.264, MJPEG	Yes	2/0	4.4	Works as designed
VG4-300 Series	H.264, MJPEG	Yes	2/0	4.4	Works as designed
VG4-500i Series	H.264, MJPEG	Yes	2/0	4.4	Works as designed

Supported Key Functions

- Video Stream
- Query Device
- Audio Stream
- Events
- PTZ

Video Stream

- Supports MJPEG and H.264 streams
- NVR supports dual H.264, or one H.264 and one MJPEG

Audio Stream

Supports audio codec G.711

Audio stream is mixed with video stream

Dry Contact Event

- Supports polling mode at a 250ms interval

Unsupported Key Functions

- Reboot
- Power Off
- Get Log
- Factory Defaults
- Find Device

Default Ports

- Port 80 for HTTP
- Port 554 for RTSP

Default Username & Password

- Username: service
- Password: <no password required>

Supported Resolutions

Model	Max Resolution (Default Value)	Resolution List in NVR 4.2+
AutoDome JR800 HD	1280x720	1280x720, 4CIF, CIF
Dinion NBN-498-P IVA	4CIF	4CIF, CIF
Dinion HD 1080p D/N IVA	1920x1080	1920x1080, 1280x720, 4CIF, 704x432, 512x288, CIF, 256x144
Dinion NBN-921-P IVA	1280x720	1280x720, 4CIF, CIF
NBC-265-P	1280x720	1280x720, 4CIF, CIF
AutoDome 800 HD	1280x720	1280x720, 4CIF, CIF
VG4 AutoDome	4CIF	4CIF, CIF

Limitations

- Due to a camera limitation, the handler can only support one MJPEG stream. If a second MJPEG stream is enabled, the NVR will produce an error message.

- Bosch camera supports two H.264 streams. Handler default stream is H.264 stream1. Due to camera limitations, H.264 stream 2 resolution depends on H.264 stream1 resolution.

Note

H.264 stream 1 and stream 2 refer to H.264 streams from the camera corresponding with the camera encoder profile1 and profile 2, not streams 1 and 2 on the NVR.

Resolution List On H.264 Stream 1	Current Value of H.264 Stream 1	Resolution List on H.264 Stream 2	Resolution List on MJPEG Stream
1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	1920x1080	1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144
1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	1280x720	1280x720 4CIF 704x432 512x288 CIF 256x144	1280x720 4CIF 704x432 512x288 CIF 256x144
1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	4CIF or below	4CIF 704x432 512x288 CIF 256x144	4CIF 704x432 512x288 CIF 256x144

Note

From the table above, the resolution on both H.264 stream 2 and MJPEG stream must be equal or less than H.264 stream 1. This means, when changing H.264 stream 1 resolution to a smaller one, ensure it is equal to or less than the resolution on both H.264 stream 2 and MJPEG stream.

- Due to a camera limitation, if the user starts MJPEG stream or H.264 stream2 with HD resolution, please make sure H.264 stream 1 resolution is equal to or higher than the resolution on MJPEG stream or H.264 stream 2.
- Bosch has implemented the CGI to get the Camera Type instead of the Model name labeled on the camera. So the Camera Type is shown in the model list on the NVR.
- Bosch cameras do not support changing the Video Standard, only viewing the Standard. Bosch cameras have 3 Video Standards: NTSC, PAL and HD. If the camera video standard is HD, "UNKNOWN" will be displayed on the NVR Camera Image Settings page.
- When setting up Dry Contacts on NBN-921-P IVA serials and NBN-498 serials, it is necessary to activate the Alarm Inputs on the camera GUI first. Users must change the Active dropdown list

value from 'None' to 'N.O.' or 'N.C.' on the camera, as 'None' means disabled and this does not automatically change when Dry Contacts are activated on the NVR.

- Due to a camera limitation, for Bosch Dinion HD 1080P D/N IVA, if the users sets stream 1 codec H.264 and 30 FPS, stream 2 codec H.264 then the streams can only reach 10 FPS, due to stream 2 being dependent on stream 1.
- Handler supports Generic functions including dual stream and audio stream with the following limitations:
    - Cameras need to provide three streams, including two H.264 streams and one MJPEG stream. So the handler can support dual H.264 streams or one H.264 stream and one MJPEG stream.
    - Resolution list includes HD resolution (1080P and 720P) and SD resolution (CIF and 4CIF), but cameras may only support one or several of them.
    - Audio codec G711 can be supported by the audio stream, other codecs are not supported.
- It is found that different camera firmware versions can return different camera types. This causes the handler to recognize the camera as Generic camera. Please ensure the Bosch camera has the recommended firmware version before adding it to the NVR.
- Due to camera limitations on the AutoDome Jr 800 HD, it supports single H.264 stream when the resolution is set to 1080P or 720P 50 (PAL)/60 (NTSC) FPS on H.264 stream 1, and H.264 stream 2 is only a copy of H.264 stream 1 when 1080P is selected for stream 1. It supports dual H.264 streams when resolution and FPS are set to 720P and 25 (PAL)/30 (NTSC) FPS or below, and H.264 stream 2 can be set to 4CIF and CIF resolution.
- Due to camera limitation, when setting 1080P for MJPEG stream on the Autodome Jr 800HD, it is shows 1920x1072.

Known Issues

- The FPS is only 2.75 when MJPEG streaming (25 fps) is in use. It is a known camera limitation. Confirmed with Bosch support that for most of the Bosch cameras FPS can only reach up to 5 FPS.
- Audio and video is not synchronized with MJPEG stream on victor client. This is due to the MJPEG stream limitation on the FPS only reaching a low rate.
- When setting Brightness and Contrast on the NBC-265-P, it returns an error message. This is because it uses different CGI from other cameras, so these properties and functions are not supported.
- Frequent Video Loss for Bosch Dinion HD 1080p D/N IVA is caused by the default NVR storage setting. The recommended mount option when setting up the NVR is: nofail,noatime,nodiratime,attr2,nobarrier,noquota,allocsize=4M
- GOP structure should be set to "IP" prior to adding cameras to NVR. Failure to configure this setting may cause videoloss or issues with victor playback.
-
- If the network connection between the NVR and the camera drops and then established again, this may result in the camera/device not restarting correctly. The camera should be restarted
- Wrong format on resolutions on the AutoDome Jr and Dinion1080P. Due to an NVR web client known Issue, when Stream 2 is enabled with the same codec as Stream 1, the setting is a copy of the Stream 1 settings. But Bosch dual H.264 stream support has a different resolution list. So when the client applies, it shows and applies a different resolution value on Stream 2.

- Due to the NVR web client known issue, when setting the resolution for the second H.264 stream, set it on the advance edit page. This is due to the fact it is a copy setting of H.264 stream 1 on camera list page with editing status, and real available resolution may not be included in the copy of the resolution list.
- Due to camera known issue, for Dinion HD 1080P D/N IVA camera, set resolution 4CIF (704x480) on H.264 Stream 1 and 768x432 on H.264 Stream 2, then the user only can get an actual resolution 704x432 for H.264 Stream 1. And set resolution 768x432 on H.264 Stream 1 and 4CIF (704x480) on H.264 Stream 2, user can only get actual resolution of 704x432 for H.264 Stream 1.
- There is a green line at top of victor Unified Client live stream on Bosch AutoDome Jr 800HD. This is a camera issue.
- Playback video stuttering when rewinding/forwarding the H.264 video from AutoDome 800 Jr. The camera setting is: NTSC, H.264, 1920x1080, FPS=30. Camera's firmware version is 39500570.

Special Points

- Bosch camera has 8 profile configurations on the web page, and each profile may configure a set of codec parameters. Handler specifies H.264 Stream 1 on camera to profile Configure 1 and H.264 Stream 2 on camera to profile Configure 2 and the MJPEG stream on camera to profile. Configure 3, so when the NVR sets stream codec parameters, the parameter is written in the special profile configured.
- Changes to codec parameters should only be made on the NVR web GUI and not the camera web page as they may not be implemented.
- The ranges of Brightness and Contrast are 0-255 in Bosch cameras. The Handler converts this value to 0-100 using the following formulae:

  Camera to NVR: *Camera(brightness/contrast)*100/255*

  NVR to camera: *NVR(brightness/contrast)*255/100*
- When adding the camera to the NVR, the GOP structure must be set to "IP" in profile configure of the camera web page, so the FPS value is usable.
- The default GOP value is 15, however if the stream is restarted, the default value will be set. If the user requires to change the GOP value, they can change it on the camera Web Gui, however only after the stream on the NVR has restarted.
- When enabling audio stream on NVR for all Bosch cameras, ensure audio is enabled on camera web GUI.

Continual Support

At any given time there may be more than one camera pack available for the VideoEdge NVR. This camera pack provides full support to all existing (updates and add-ons) and new cameras available for the VideoEdge NVR. The following is a list of all existing manufacturers and cameras supported by the VideoEdge NVR:

- American Dynamics
  - •American Dynamics Eight Channel Encoder
  - •American Dynamics Fixed IP
  - •American Dynamics Illustra 210 Series
  - •American Dynamics Illustra 400 Series
  - •American Dynamics Illustra 600/600LT/610/610LT Series
  - •American Dynamics Illustra 600/610 Compact Mini-Dome Series
  - •American Dynamics Illustra 625 PTZ Cameras
  - •American Dynamics IP SpeedDome Cameras
- ACTi Corporation Cameras
- Arecont Vision Cameras
- AXIS Cameras and Encoders
- Bosch Cameras
- CBC Cameras
- FLIR
- ONVIF
- Panasonic Cameras
- Samsung Encoders and Cameras
- SONY Encoders and Cameras
- Vivotek Encoders and Cameras

General Limitations

- In NVR 4.2.0 or later, the NVR does not provide any GUI for PTZ operations other than enabling PTZ and maybe Absolute Focus/Iris. Enabling PTZ only applies to Encoders, not PTZ Cameras.
- It is recommended not to configure cameras on multiple Recorders as this may impact on stream and general performance of the camera.

American Dynamics

Supported American Dynamics cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Video Encoders					
ADEIP8H	H.264, MJPEG	Yes	16/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADEIP8M	MJPEG, MPEG4	Yes	16/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Box Cameras					
ADCIPEBPN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBPPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBPPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPEBPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Indoor Mini Dome Cameras					
ADCIPE3312ICN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ISN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ICPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ISPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ICPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3312ISPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Outdoor Mini Dome Cameras					
ADCIPE3712OCN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OSN	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OCPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OCPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OSPU	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCIPE3712OSPE	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
IP Dome Cameras					
ADVEIPSD22N	H.264, MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADVEIPSD22P	H.264, MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADVEIPSD35N	H.264, MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADVEIPSD35P	H.264, MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Illustra 210 Mini Dome Cameras					
ADCi210-D111	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D011	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D121	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D021	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D113	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D013	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D123	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi210-D023	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 600 Mini Dome Cameras					
ADCi600-D111	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D011	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D121	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D021	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D321	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D131	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D031	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D141	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D041	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D341	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D113	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D013	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D123	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D323	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D133	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D033	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D143	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D043	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D343	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 610 Mini Dome Cameras					
ADCi610-D111	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D011	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D121	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D021	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D321	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D131	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D031	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D141	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D041	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D341	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D113	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D013	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
ADCi610-D123	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D023	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D323	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D133	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D033	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D143	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D043	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 610LTMini Dome Cameras					
ADCi610LT-D111	H.264, MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610LT-D113	H.264, MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 600 Telephoto Lens Mini Dome Cameras					
ADCi600-D521	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D541	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D523	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-D543	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 610 Telephoto Lens Mini Dome Cameras					
ADCi610-D521	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D541	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D523	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-D543	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 400 WDR Indoor Mini Dome Cameras					
ADCi400-D011	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D013	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D031	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D033	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 400 WDR Outdoor Mini Dome Cameras					
ADCi400-D021	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D023	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D041	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-D043	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 400 WDR Bullet Cameras					
ADCi400-B021	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-B022	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-B041	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 400 Box Cameras					
ADCi400-X001	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
ADCi400-X002	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Illustra 600/610 Bullet Cameras					
ADCi600-B021	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
ADCi600-B041	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-B021	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-B041	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Illustra 600/610 Box Cameras					
ADCi600-X011	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
ADCi610-X011	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
Illustra 600LT Bullet Cameras					
ADCi600LT-B021	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
Illustra 600LT Box Cameras					
ADCi600-X011	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
Illustra 625 PTZ Cameras					
ADCi625-P132	H.264, MJPEG	No	No	4.2.1, 4.3, 4.4	Tested & Certified
ADCi625-P122	H.264, MJPEG	No	No	4.2.1, 4.3, 4.4	Tested & Certified
ADCi625-P121	H.264, MJPEG	No	No	4.2.1, 4.3, 4.4	Tested & Certified
ADCi625-P124	H.264, MJPEG	No	No	4.2.1, 4.3, 4.4	Tested & Certified
ADCi625-P123	H.264, MJPEG	No	No	4.2.1, 4.3, 4.4	Tested & Certified
ADCi625-P232	H.264, MJPEG	Yes	4/0	4.3, 4.4	Tested & Certified
ADCi625-P222	H.264, MJPEG	Yes	4/0	4.3, 4.4	Tested & Certified
ADCi625-P221	H.264, MJPEG	Yes	4/0	4.3, 4.4	Tested & Certified
ADCi625-P223	H.264, MJPEG	Yes	4/0	4.3, 4.4	Tested & Certified
ADCi625-P224	H.264, MJPEG	Yes	4/0	4.3, 4.4	Tested & Certified
Illustra 600/610 Compact Mini-Dome Cameras					
ADCi600-M111	H.264, MJPEG	No	No	4.3, 4.4	Tested & Certified
ADCi610-M111	H.264, MJPEG	No	No	4.3, 4.4	Tested & Certified

ACTi Corporation

This version of the VideoEdge camera handler is fully integrated with ACTi Corporation line of IP cameras. ACTi has number of API's (Application Programming Interface) camera handlers to communicate with their cameras. This version of the VideoEdge NVR is fully integrated with the ACM models (cameras using firmware version v3.13.16-AC) and TCM models (cameras using firmware version v4.11.09-AC). As ACTi continues to release new cameras to the market, the VideoEdge camera handler provides a generic camera driver that can connect to any ACM or TCM cameras not listed in the available camera list. The generic ACTi driver will gather the required information and present this to the VideoEdge NVR

Supported ACTi Corporation cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed Cameras					
ACM5611	MJPEG	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Bullet Cameras					
ACM1231	MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
TCM1231	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM1511	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Cube Cameras					
ACM4201	MJPEG	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM4201	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Fixed Dome Cameras					
ACM3401	MJPEG	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
ACM3511	MJPEG	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
ACM3701	MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
ACM7411	MJPEG	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM3401	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM3411	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM3511	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
TCM7411	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
TCM7811	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Box Cameras					
TCM5311	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
TCM5611	MJPEG, H.264	No	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Arecont Vision

VideoEdge camera handler is fully integrated with the Arecont Vision line of megapixel cameras including full support for the 180˚ and 360˚ lines of panoramic view cameras. Arecont Vision cameras operating system (firmware) is continually evolving; please make sure your camera is running the most current firmware available from Arecont Vision (available from http://www.arecontvision.com). As Arecont Vision continues to release new cameras, there may be instances where specific Arecont Vision cameras are not listed in the supported camera list. A generic Arecont Vision camera handler is available for these cameras.

VideoEdge camera handler supports the following firmware versions:

- **M-JPEG cameras** – firmware version 64327 or higher
- **H.264/M-JPEG cameras** – firmware version 65139 or higher

Supported Arecont Vision cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed Cameras					
AV1115	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1115DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1115AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1125	H.264	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1125DN	H.264	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1125IR	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1300	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1300DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1300AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1300M	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1305	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1305DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1305AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1310	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1310DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1315	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1315DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV1325	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1325DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1325IR	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2100	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2100DN	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2100AI	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2100IR	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2100M	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2105	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2105DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2105AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2115	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2115DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2115AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2125	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2125DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2125IR	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2805	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2805DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2815	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2815DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2825	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2825DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2825IR	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3100	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV3100DN	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV3100AI	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3105	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3105DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV3105AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3115	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3115DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3115AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3125	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3125DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3125IR	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3155	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV3155DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5100	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5100DN	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5100AI	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5100M	MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5105	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5105DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5105AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5115	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5115DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5115AI	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5125DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Mini Dome Cameras					
AV1355	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1355DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Panoramic Mini Dome Cameras					

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV8180	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8185	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8185DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8360	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8365	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV8365DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV20185DN	H.264, MJPEG	No	No	4.3, 4.4	Tested & Certified
AV20185CO	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
AV20365DN	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
AV20365CO	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
MegaVideo Box Cameras					
AV1115	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1115DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1115AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1300AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1300DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1305	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1305AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1305DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1310	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1310DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV1315	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1315DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2100AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2100DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2105	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2105AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2105DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV2115	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV2115DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2115AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2805DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2805AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2815	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2815DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV3100AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV3100DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV3105AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3105DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3115	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3115DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3115AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5100AI	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5100DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5105	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5105AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5105DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5110	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5110DN	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
AV5115	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5115DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5115AI	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV10005	MJPEG	No	No	4.3, 4.4	Tested & Certified
AV10115	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
MegaDome Dome Cameras					

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV10255	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
AV1355	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5155	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1355	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1355DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5155DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
MegaView Bullet Cameras					
AV1325	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1325IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1325DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2825	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2825IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2825DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1125IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV1125DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2125IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV2125DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3125IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV3125DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AV5125IR	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
AV5125DN	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Note

Each of the 8xxx cameras are comprised of four individual cameras housed together as a “single camera”. Please make sure you have sufficient camera licenses available with your VideoEdge NVR. When adding cameras to the NVR ensure that four camera slots are available (e.g. when adding three separate cameras the first camera should be added to slot 1 (this camera will use slots 1,2,3,4), the second cameras should be added to slot 5 (it will use slots 5,6,7,8) and the third camera should be added to slot 9 (it will use 9,10,11,12), and so on.

AXIS Communications

VideoEdge camera handler is fully integrated with the AXIS communications line of IP cameras and video encoders. AXIS has number of API's (Application Programming Interface) camera handlers to communicate with their cameras. The VideoEdge NVR is fully integrated with the VAPIX® API Version 2 (cameras using firmware version 4.xx) and VAPIX® API Version 3 (cameras using firmware version 5.xx). As AXIS continues to release new cameras to the market, the VideoEdge camera handler provides a generic AXIS camera driver that can connect to any VAPIX® 2 & 3 camera. The generic driver will gather all required information, including camera name and functionality, and present it to the VideoEdge NVR.

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported (Minimum Camera Pack Version)	Certification
Encoders					
M7001	H.264, MJPEG	Yes	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Q7401	H.264, MJPEG	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q7404	H.264, MJPEG	Yes	8/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q7406	H.264, MJPEG	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Q7414	H.264, MJPEG	Yes	8/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
240Q	MJPEG, MPEG4	No	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
241Q	MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
241QA	MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
241S	MJPEG, MPEG4	No	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
241SA	MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
243Q	MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
243SA	MJPEG, MPEG4			4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
247S	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Fixed Cameras					
M1011	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M1011-W	H.264, MJPEG, MPEG4	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M1031-W	H.264, MJPEG, MPEG4	Yes	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M1054	H.264, MJPEG	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M1103	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M1104	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M1113	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported (Minimum Camera Pack Version)	Certification
M1114	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1311	H.264, MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1343	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1343-E	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P1344	H.264, MJPEG, MPEG4	Yes	1/0	4.0, 4.01, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1344-E	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P1346	H.264, MJPEG, MPEG4	Yes	1/0	4.0, 4.01, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1346-E	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P1347	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P1347-E	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q1755	H.264, MJPEG, MPEG4	Yes	2/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Q1755-E	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
206	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
206-M	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
206-W	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
207	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
207-MW	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
207-W	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
210	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
210A	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
211	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
211-A	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
211-M	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
211-W	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
223M	MJPEG, MPEG4	No	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
225FD	MJPEG, MPEG4	No	2/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Fixed Dome Cameras					
M3011	H.264, MJPEG, MPEG4	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3014	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M3113-R	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3113-VE	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3114-R	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3114-VE	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3203	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M3203-V	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
M3204	H.264, MJPEG	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3301	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3301-V	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3304	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3304-V	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported (Minimum Camera Pack Version)	Certification
P3343	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3343-V	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3343-VE	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3344	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3344-V	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3344-VE	H.264, MJPEG	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3346	H.264, MJPEG	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P3346-V	H.264, MJPEG	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P3346-VE	H.264, MJPEG	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
209FD	MJPEG, MPEG4	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
209FD-R	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
209MFD	MJPEG, MPEG4	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
209MFD-R	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
216FD	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
216FD-V	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
216MFD	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
216MFD-V	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PTZ Cameras					
212PTZ	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
212PTZ-V	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
213PTZ	MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
214PTZ	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
215PTZ	MJPEG, MPEG4	Yes	1/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
215PTZ-E	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
PTZ Dome Cameras					
P5512	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P5512-E	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P5522	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P5522-E	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P5532	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
P5532-E	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P5534	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
P5534-E	H.264, MJPEG	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q6032-E	H.264, MJPEG	No	No	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q6034	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q6034-E	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
231D+	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
232D+	MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
233D	MJPEG, MPEG4	Yes	4/0	4.0, 4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
M5013	H.264, MJPEG	Yes	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported (Minimum Camera Pack Version)	Certification
M5014	H.264, MJPEG	Yes	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Thermal Cameras					
Q1910	H.264, MJPEG	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q1910-E	H.264, MJPEG	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Q1921	H.264, MJPEG	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Q1921-E	H.264, MJPEG	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Bosch

VideoEdge camera handler is fully integrated with the Bosch communications line of IP cameras. The VideoEdge NVR is fully integrated with the cameras (with Bosch API version 3.0). As Bosch continues to release new cameras to the market, the VideoEdge camera handler provides a generic Bosch camera driver that can connect to (compatible with Bosch API version 3.0) camera. Supported Bosch cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
AutoDome (Supported Firmware v15500552)					
VJR-821-ICCV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-811-ICCV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-821-IWCV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-811-IWCV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
VJR-821-ICTV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-811-ICTV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-821-IWTV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VJR-811-IWTV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
VG5-825-ECEV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
VG5-825-ETEV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
NBN (Supported Firmware v5950050)					
Dinion NBN-498-28	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
Dinion NBN-498-28V	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-498-28WV	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-498-28W	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-921-P	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
Dinion NBN-921-2P	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-921-IP	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-832V-P	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
Dinion NBN-832V-IP	H.264, MJPEG	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
Dinion NBC-265-P	H.264, MJPEG	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
AutoDome 700 (Supported Firmware v5.80.0625)					
VG5-713-CCE2	H.264, MJPEG	Yes	2/0	4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
VG5-723-CCE2	H.264, MJPEG	Yes	2/0	4.3, 4.4	Works as designed
VG5-713-ECE2	H.264, MJPEG	Yes	2/0	4.3, 4.4	Works as designed
VG5-714-ECE2	H.264, MJPEG	Yes	2/0	4.3, 4.4	Works as designed
VG5-723-ECE2	H.264, MJPEG	Yes	2/0	4.3, 4.4	Works as designed
VG5-724-ECE2	H.264, MJPEG	Yes	2/0	4.3, 4.4	Works as designed
VG4 AutoDome Series (Supported Firmware v5.72)					
VG4-100 Series	H.264, MJPEG	Yes	2/0	4.4	Works as designed
VG4-200 Series	H.264, MJPEG	Yes	2/0	4.4	Works as designed
VG4-300 Series	H.264, MJPEG	Yes	2/0	4.4	Works as designed
VG4-500i Series	H.264, MJPEG	Yes	2/0	4.4	Works as designed

CBC

VideoEdge camera handler is fully integrated with the CBC megapixel cameras. CBC cameras operating system (firmware) is continually evolving; please make sure your camera is running the most current firmware available. Supported CBC Cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed IP Cameras					
MP1A	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
MP1DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
MP2A	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
MP2DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
MP3DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
MP5A	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
MP5DN	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Indoor Dome Cameras					
MP8D-L4	MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

FLIR

In this release the VideoEdge camera pack is fully integrated with FLIR's D, PT and F series, multi sensor, pan tilt and fixed thermal security cameras.

The following cameras are supported with minimum camera firmware version *nexus-server-GD_v2.5.9.17*.

Supported FLIR cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Fixed Cameras					
F-112	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-117	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-124	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-304	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-307	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-313	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-324	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
F-334	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-348	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-606	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-610	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-612	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-618	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-625	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-645	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
F-VIS	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
Outdoor Dome Cameras					
D-313	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-324	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
D-334	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-348	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-618	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-625	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
D-645	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Multi-Sensor Pan Tilt Cameras					
PT-112	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-117	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-124	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-304	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-307	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-313	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-324	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
PT-334	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-348	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-606	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-610	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-612	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-618	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-625	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
PT-645	H.264, MJPEG, MPEG4	No	No	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Panasonic Corp

VideoEdge camera handler is fully integrated with the Panasonic line of IP cameras. Panasonic, generally, doesn't change the core API interface for their cameras. VideoEdge camera handler is based on Panasonic core API package version 1.28, supporting both WV and DG versions of the listed cameras. As Panasonic continues to release new cameras there may be instances where specific Panasonic cameras are not listed in the available camera pack. A generic Panasonic camera handler is available for these cameras.

Supported Panasonic cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Encoders					
GXE500	H.264, MJPEG, MPEG4	Yes	3/0	4.3, 4.4	Tested & Certified
Fixed Dome Cameras					
NW484	MJPEG, MPEG4	No	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NW484S	MJPEG, MPEG4	No	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NW502S	H.264, MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SF332	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SF335	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SF336	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SF342	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SF346	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SW352	H.264, MJPEG, MPEG4	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SW355	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NF284	MJPEG, MPEG4	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NF302	MJPEG, MPEG4	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP508	H.264, MJPEG	No	3/0	4.3, 4.4	Works as designed
SF538	H.264, MJPEG	No	3/0	4.3, 4.4	Works as designed
SF548	H.264, MJPEG	No	3/0	4.3, 4.4	Works as designed
SW558	H.264, MJPEG	No	3/0	4.3, 4.4	Works as designed
SP509	H.264, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SF539	H.264, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SF549	H.264, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SW559	H.264, MJPEG	Yes	3/0	4.3, 4.4	Tested & Certified
SW152	H.264, MJPEG	No	No	4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
SW155	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
SF132	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
SF135	H.264, MJPEG	No	No	4.3, 4.4	Works as designed
PTZ Dome Cameras					
NW960	MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NW964	MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NS950	MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NS954	MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NS202	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
NS202A	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SC384	H.264, MJPEG, MPEG4	Yes	3/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SC385	H.264, MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SC395	H.264, MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SC386	H.264, MJPEG, MPEG4	Yes	3/0	4.3, 4.4	Tested & Certified
SC396	H.264, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
ST162	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
ST165	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
SW172	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
SW174W	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
SW175	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
Fixed Cameras					
NP244	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NP304	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
NP502	H.264, MJPEG, MPEG4	Yes	3/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP102	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP105	H.264, MJPEG	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP302	H.264, MJPEG, MPEG4	Yes	1/0	4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SP305	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP306	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SP304	H.264, MJPEG, MPEG4	Yes	1/0	4.3, 4.4	Works as designed
SF334	H.264, MJPEG, MPEG4	Yes	1.0	4.3, 4.4	Works as designed
SW314	H.264, MJPEG, MPEG4	No	1/0	4.3, 4.4	Works as designed
SW316	H.264, MJPEG, MPEG4	Yes	1/0	4.3, 4.4	Works as designed
SW316L	H.264, MJPEG, MPEG4	Yes	1/0	4.3, 4.4	Tested & Certified

Samsung

VideoEdge camera handler is fully integrated with the Samsung communications line of IP cameras. The VideoEdge NVR is fully integrated with the cameras (with Samsung API TYPE1 and TYPE2 version 2.7.4). As Samsung continues to release new cameras to the market, the VideoEdge camera handler provides a generic Samsung camera driver that can connect to (compatible with Samsung API version 2.7.4) cameras. Supported Samsung Cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Encoders					
SPE-100	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SPE-400	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Tested & Certified
Box Series Cameras					
SNZ-5200	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
SNB-2000	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
SNB-3000	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
SNB-3002	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
SNB-5000	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNB-7000	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
Bullet Series Cameras					
SNO-5080R	H.264, MJPEG, MPEG4	No	1/0	4.2.1, 4.3, 4.4	Works as designed
Fixed Dome Series Cameras					
SNV-5010	MJPEG, H.264	No	No	4.2.1, 4.3, 4.4	Tested & Certified
SNV-3080	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Works as designed
SNV-3120	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNV-5080	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNV-5080R	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNV-7080	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SNV-7080R	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SND-3080	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Tested & Certified
SND-3082	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SND-3080F	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Works as designed
SND-3080C	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Works as designed
SND-3080CF	H.264, MJPEG, MPEG4	No	2/0	4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
SND-5080	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
SND-5080F	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
SND-7080	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Tested & Certified
SND-7080F	H.264, MJPEG, MPEG4	Yes	1/0	4.2.1, 4.3, 4.4	Works as designed
PTZ Series Cameras					
SNP-3120	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Tested & Certified
SNP-3120V	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3120VH	H.264, MJPEG, MPEG4	Yes	2/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3371	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Tested & Certified
SNP-3302	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3302H	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3371TH	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Works as designed
SNP-5200	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Tested & Certified
SNP-5200H	H.264, MJPEG, MPEG4	Yes	4/0	4.2.1, 4.3, 4.4	Works as designed
SNP-3430H	H.264, MJPEG, MPEG4	Yes	8/0	4.2.1, 4.3, 4.4	Works as designed

SONY

This version of VideoEdge camera handler provides full integration with the SONY line of Video Encoders and IP cameras. SONY has number of API's (Application Programming Interface) camera handlers to communicate with their cameras. The VideoEdge NVR is fully integrated with SONY's 3rd, 4th, and 5th generations of IP cameras. As SONY continues to release new cameras there can be instances where specific SONY cameras are not listed in the camera pack camera-list. A generic SONY camera handler is available in these instances.

Supported SONY cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Encoders					
SNT-EX 101	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNT-EX 101E	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNT-EX 104	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNT-EP 104	H.264, MJPEG, MPEG4	Yes	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNT-EP 154	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNT-EX 154	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
Fixed Cameras					
SNC-CS20	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH160	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-CH140	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH240	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-CH180	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH280	H.264, MJPEG, MPEG4	Yes	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH120	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH220	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH260	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CM120	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CS50N	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-CS50P	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-CH110	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-CH210	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-EB520	H.264, MJPEG, MPEG4	No	1/1	4.3, 4.4	Tested & Certified
SNC-EM520	H.264, MJPEG, MPEG4	No	0/0	4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
SNC-EM521	H.264, MJPEG, MPEG4	No	0/0	4.3, 4.4	Works as designed
Mini Dome Cameras					
SNC-DH140	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH140T	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH240	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH240T	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH280	H.264, MJPEG, MPEG4	Yes	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH120	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH120T	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH220T	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH160	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH260	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DS10	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DS60	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DM110	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DM160	MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF50N	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF50P	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF80N	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF80P	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DF85N	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNCDF85P	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH220	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-DH110	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH110T	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH210	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-DH210T	H.264, MJPEG, MPEG4	No	No	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-DH180	H.264, MJPEG, MPEG4	Yes	1/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
PTZ Dome					
SNC-RS44N	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS44P	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS84N	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS84P	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS86N	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RS86P	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RH124	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Tested & Certified
SNC-RH164	H.264, MJPEG, MPEG4	Yes	4/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX530N	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX530P	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX550N	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX550P	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-RX570N	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
SNC-RX570P	H.264, MJPEG, MPEG4	Yes	2/0	4.0.1, 4.1, 4.2, 4.2.1, 4.3, 4.4	Works as designed
SNC-EP550	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Works as designed
SNC-EP580	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Tested & Certified
SNC-ER250/ER521	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Tested & Certified
SNC-EP520/EP521	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Works as designed
SNC-ER550	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Works as designed
SNC-ER580	H.264, MJPEG, MPEG4	Yes	2/1	4.3, 4.4	Works as designed

Vivotek Corp.

VideoEdge camera handler is fully integrated with the Vivotek line of IP cameras. Vivotek generally doesn't change the core API interface for their cameras. VideoEdge camera handler is based on Vivotek API "URL Command Document for All Series Version 1.4a", supporting all the listed cameras. As Vivotek continues to release new cameras, there may be instances where specific Vivotek cameras are not listed in the supported camera list. A generic Vivotek camera handler is available for these cameras.

Supported Vivotek Cameras:

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
Encoders					
VS8801	H.264, MPEG4, MJPEG	Yes	8/0	4.3, 4.4	Tested & Certified
Fixed IP Cameras					
FD8136	H.264, MPEG4, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
FD8135H	H.264, MPEG4, MJPEG	Yes	3/0	4.3, 4.4	Tested & Certified
FD8335H	H.264, MPEG4, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
FE8171	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
FE8171V	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
FE8172	H.264, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
FE8172V	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
SF8172	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
SF8172V	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
AF5127	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
AF5127V	H.264, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
IP8362	H.264, MPEG4, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
PTZ Cameras					
SD8313E	H.264, MPEG4, MJPEG	Yes	3/0	4.3, 4.4	Tested & Certified
SD8323E	H.264, MPEG4, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SD8312E	H.264, MPEG4, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SD8322E	H.264, MPEG4, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SD8311E	H.264, MPEG4, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SD8321E	H.264, MPEG4, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
SD8362E	H.264, MPEG4, MJPEG	Yes	3/0	4.3, 4.4	Works as designed
PZ8111	H.264, MPEG4, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified

Model	CODEC Supported	Audio	I/O	VideoEdge Versions Supported	Certification
PZ8121	H.264, MPEG4, MJPEG	Yes	1/0	4.3, 4.4	Tested & Certified
PZ8111W	H.264, MPEG4, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
PZ8121W	H.264, MPEG4, MJPEG	Yes	1/0	4.3, 4.4	Works as designed
Generic					
All other models	Model Dependant			4.3, 4.4	Generic Reduced Functionality

Camera Specific Release Notes

This section is a collection of camera release notes as provided with each camera release. This section provides detailed description for each manufacturer cameras, performance limitations and supported features.

American Dynamics 8 Channel IP Encoder

Supported Key Functions

- Video Streaming – Single and Dual
- Video Codec – MJPEG, MPEG4 and H.264
- Audio Streaming – Audio Codec are AAC, G.711 ulaw and G.711 alaw
- PTZ – Applies to analog cameras that have mechanical Pan, Tilt, and Optical Zoom
- Dry Contact Events – Camera is polled for dry contact event at 100ms interval
- Reset to Factory Defaults
- Query Device
- Reboot Device

Required Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: user
- Password: user617

Limitations

- Changing the video source requires a reboot of the encoder. During the reboot, the device will not respond.
- Changing the interlacing parameter requires a reboot of the encoder. During the reboot, the device will not respond.

- Changing streaming parameters like bit-rate, quality, frame-rate, key frame interval and others would require the stream to be restarted, hence a small glitch in play out might be observed during this time.
- Consecutive audio channel pairs should be configured with same codec otherwise RTSP will send a 500 message. Pairing as {PCMU,PCMA},AAC.
- Due to a limitation in the Encoder firmware, the QCIF video stream uses the 172x112 resolution.
- Pattern cancel feature is not support in consistent manner. If “Pattern Cancel” is selected via victor unified client, recorded pattern will be saved, overwriting the existing pattern.
- “Focus” and “Iris” support has been removed, to maintain consistency, the “Auto Iris” feature is also disabled.
- When tilt is aligned at the zero-tilt position on the dome (where 180 degree can also flip occur), this may result in the camera continuously titling.
- It has been observed that CBR operation for MPEG-4 at lower frame-rate settings is blocky and full of artifacts. To improve the same, a constant quality settings operating as VBR is found to be more effective. This has been incorporated in the solution.
- Due to a limitation in the encoder, simultaneous PT and Z operation using the encoder on a camera is not supported.
- Due to a limitation in the encoder while operating in resolution QCIF, GOP settings 2 and in CBR transmission mode, it is possible to observe up to 50% frame drops depending on the complexity of input scene.
- Bitrate / Quality or any streaming parameter changes using the encoder webpage does not reflect or take effect on the already started or existing streaming session. Either the encoder needs to be restarted or the streaming session needs to be restarted for these parameters to take effect.
- ADEIP8H on rare occasions the MJPEG stream may send bad frames where the frame size is only several dozen bytes.
- Due to the new quality value is embedded in stream URL, quality does not update on camera web GUI after changed on NVR
- Due to the new bitrate value is embedded in stream URL, bitrate does not update on camera web GUI after changed on NVR

Note

Please refer to AD 8-Channel IP Encoder (M) and (H) Release Notes for additional information.

American Dynamics Fixed IP Camera

Supported Firmware

- v1.57 or later

Supported Key Functions

- Video Streaming: Single
- Video Codec: MJPEG and MPEG-4
- Audio Streaming: Model specific, G.711 ulaw, A/V, single stream only
- Dry Contact Event - 1 Dry Contact, http poll for dry contact event at 100ms interval
- Query Device

Required Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: 9999

Limitations

- The camera will reboot when changing codec (audio or video), resolution, frame rate,key frame interval, video quality, audio volume, enable audio / audio in and any other audio / video properties. Reboots will take about 20 to 30 seconds and 1 minute to be back online.
- Single HTTP stream to send audio/video interleaved MPEG4 video.
- When the camera is rebooted or codec changed, if focus is adjusted against a grey scene, it will take up to 30 seconds to go back to color.
- When changing codec from MJPEG to MPEG4, if the default bit rate is larger than 8000, an error message will be received when changing the video codec properties; the workaround is to change the bit rate to 8000.

Note

Please refer to AD Fixed Camera Release Notes for additional information.

American Dynamics Fixed Camera (Illustra 400 series)

Supported Firmware

- v2.20 or later

Supported Key Functions

- Video Streaming – Single, Dual
- Video codec – H.264 and MJPEG
- Audio Streaming – G.711 ulaw and G.726, single stream only
- Dry Contact Events – is polled for dry contact event at 100ms interval
- Query Device
- Device Reboot

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username:admin
- Password:9999

Limitations

- The camera will reboot when changing codec (audio or video), resolution, frame rate, key frame interval, video quality, audio volume, enable audio / audioin and any other audio / video properties. The reboots will take about 20 to 30 seconds.
- All audio and video streams will be lost when the camera reboots. All audio and video streams will then need to be re-established.
- When the camera is rebooting, video and audio properties may not be available to get / set new value.
- Due to camera internal resource contention, both profiles (streams) must have the same resolution. If profiles (streams) are set to obtain different resolutions the requested FPS will not be obtainable for MJPEG.
- To achieve optimal H.264 Motion Detection results, the recommended settings are:
    - Stream 1 is H.264, 30fps, D1 or D2 resolution, default quality
    - Stream 2 is MJPEG, 7 fps, CIF, default quality
- For some properties' values are retrieved from camera itself (e.g. resolution, quality), that results in that when the user adds the camera, the return value is not the default value defined in the NVR, but the actual value in camera.
- VideoCodecKeyFrameInterval is not supported by the camera handler, but the user can change it from the camera web page.
- For AudioInputVolume, the microphone input and line-in input have different ranges.:
- Microphone input:
    - A setting of 'low (1)' is 20dB
    - A setting of 'high (10)' is 26 dB
- Line-in:
    - A setting of 'low (1)' is 6 dB
    - A setting of 'high (10)' is 18dB.
- Due to camera internal resource contention, changing the resolution quality or bit rate may affect the frame rate performance. Please refer to camera limitation.
- Changing the video codec/audio codec may cause the RTSP service in the camera to stop, and the video/audio streaming to stop working, the workaround is to reboot or power cycle the camera
- With camera firmware v2.20, the FPS selections for the MJPEG codec from the camera web GUI shows only "3,5,7,10,12,15,30" for NTSC and "3,5,7,10,12,15,25" for PAL. This, however, does not affect the FPS selections from the VideoEdge client, which remain supporting 1 - 30 for NTSC and 1-25 for PAL.
- To meet the single stream fps, the user can enable dual stream on NVR, configure the stream codec/resolution/fps/quality for Stream 1 and then configure Stream 2 to lowest resolution/fps/quality. Once Stream 2 is configured the user can disable Stream 2 on the NVR. Alternatively the user can access the camera's web GUI settings to change stream 2 to the lowest/resolution/fps/quality.
- Illustra400 Camera will be 'Unknown' in NVR camera list after rebooting the NVR while the camera is offline. The workaround is to first create a password group with the password "9999", then add the Illustra 400 camera with this new group, not the default group.
- Please refer to the AD Illustra 400 Camera Release Notes for additional information.

American Dynamics Fixed Camera (Illustra 210, Illustra 600 and Illustra 610 Domes)

Supported Key Functions

- Video Streaming
- Audio Streaming – Supports G711mulaw stream (600/610/210). Illustra 610LT does not support audio.
- Dry Contact Events – Single camera is polled for Dry Contact at 100ms interval (600/610/210). Illustra 610LT does not support dry contact events.
- Query Device
- Reboot

Unsupported Key Functions

- PTZ Operation
- Power off devices
- Get device log
- Find Devices
- Reset to factory default

Audio/Video Streaming Feature

- Supports both MJPEG and H.264 codec.
- Camera will takes around 25-seconds to restart network services after changing the codec or resolution settings.
- Supports two video streams at the same time
- The rtsp audio only stream URL is

  rtsp://camera_ip:7777/audio
- The rtsp video only stream URL is

  rtsp://camera_ip:7779/primarystream

rtsp://camera_ip:7781/secondarystream

- The rtsp A/V mixed stream URL is

  rtsp://camera_ip:7778/primarystream

  rtsp://camera_ip:7780/secondarystream

- The end user can modify the port numbers via camera webpage.
- Handler will select one stream from camera, so the rtsp URL for MJPEG or H.264 can be either of these two URLs

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTP/RTSP

Default Username & Password

- Username: admin
- Password: admin

Limitations

- When the primary and secondary streams are configured with the same codec, changing stream on the NVR may change the opposite stream to the one you wish to change. The Illustra 600 primary and secondary streams configuration will not necessarily reflect stream one and stream two on the NVR. The camera only identifies the streams by the stream codec (ignoring FPS and resolution). In some instances when NVR streams are both configured with the same Codec, changing one of the streams will not necessarily change the parameters on the specified stream.
- Illustra 600/610 camera only supports one 720P/1080P stream. If there is one 720P/1080P stream on the NVR, it is impossible to set another.
- If the secondary stream is enabled via the Camera Web GUI, the camera will keep streaming even when no user requires the stream. To meet the FPS set in the NVR, the other stream should be set to a lower resolution, quality and FPS. Please refer to the camera FPS limitation document.
- To meet the single stream fps, the user can enable dual stream on NVR, configure the stream codec/resolution/fps/quality for Stream 1, and then configure Stream 2 to lowest resolution/fps/quality. Once Stream 2 is configured the user can disable Stream 2 on the NVR. Alternatively the user can access the camera’s web GUI settings to change stream 2 to the lowest resolution/fps/quality.
- Changing codec and/or resolution will cause the network service to reboot; this takes about 25 seconds. It will continue to deliver previous video/audio streams in the first 15 seconds. During this time, the camera will be offline. If the user refreshes the NVR web GUI, the properties will be “unknown”, the camera may still be rebooting. If the video stream is not created successfully, the properties will show “unknown”.
- For some properties, values that are retrieved from the camera itself (such as resolution or quality), when a user adds the camera, the return value is not the default value but the value defined by the camera.

- NVR only supports audio in 8KHz.
- Illustra 600, add 720p and 1080p resolution for MJPEG stream, change the codec or resolution of stream 1 will report an error. Illustra 600 camera only supports one 720P/1080P stream. If there is one 720P/1080P stream on the NVR, it is impossible to set another. Please refer to the camera limitation.
- Auto Exposure switch appears to occur earlier than expected for 720p PAL and 1080p camera.
- The GOP of H.264 must be below 120. If the GOP is too big, several seconds are needed to create a key frame. This will cause a mosaic image effect when opening the NVR if it is not a I-Frame. It is suggested to set the GOP size the same as the frame rate. On the camera, the default factory GOP is 30 for NTSC, 25 for PAL, it is not recommended to change this.
- When changing the FPS, the corresponding RTSP stream will restart. This may result in a minor video loss dependent on the GOP size configured, because the video needs a key frame.
- It is recommended to configure the camera within the camera FPS limitations. If the parameters exceed the limitations, the camera performance may be affected.
- Rebooting the camera to factory default can resolve the camera performance. Once this is complete, reconfigure the camera within the camera FPS limitations.
- NVR does not support changing the quality of H.264.
- Although the NVR does not support changing the quality of H.264, this can be managed through the camera web GUI. To support dual streams, it is recommended the interval between changing codec/resolution should be greater than 30 seconds. Otherwise the camera may keep rebooting.
- When changing the codec of steam 1 in an NVR that has dual streams, the error “unable to determine stream 2 – malformed request” will be reported. When the “back” button (refresh in the web GUI) is clicked, the codec will have changed to the configured codec. This is a limitation.
- If Motion Meta Data is enabled, changing codec/resolution of stream1 or stream2 after the camera reboots, the Motion Meta status will be disabled. This is a limitation.
- If the default exposure is configured on the Illustra 600 or 610, a 2 to 3 second video freeze will be experienced as the camera changes mode from day to night. When the available light caught by the camera lens drops sufficiently, the camera changes from Day mode (color images) to Night mode (black and white images). This freeze is related to the time it takes the camera lens to readjust to the light difference when it is set to the default exposure rate and the effect on the NVR as the mode changes over. A workaround for this is to increase the exposure setting. This is a limitation.
- For resolution/frame rate/quality limitation, refer to the camera FPS limitation document.
- Video and audio may become out of sync when navigating playback to specific times on the victor Client clips.
- If the codec on the camera primary stream is MJPEG, when this camera is added into a NVR, the camera will need to change the codec to H.264 and reboot. The camera will be offline for about 20 seconds
- Wrong video timestamp will make NVR create a lot of sessions and have a minor video loss in playback.
- If a user changes the rate control of an Illustra 210 model on the Camera Web GUI to VBR it may cause a pulsation effect on the H.264 stream when using default resolution, FPS and quality values. The Default for the Rate Control is CBR.
- On NVR 4.4 when the bitrate control is changed to CVBR, the NVR GUI will report an error message, please ignore as the change actually taken effect
- The Factory default values for the Illustra Camera models are:

•Illustra 210 = H.264, Maximum available Fps, D1

•Illustra 600 = H.264, Maximum available Fps , 1280X720

•Illustra 610 = H.264, Maximum available Fps , 1920X1080

Special Points

- Some properties are normalized to a percentage (1-100), but the real value in camera is a range from -127 to 128. This results in the values in the NVR not covering all values in the camera.
- When the camera is added to NVR, it is recommended not to change settings from the camera web page (especially video and audio) because the change may need to reboot the video codec and this will affect the NVR.
- When changing the video resolution, frame rate, quality, bit rate, audio codec, the code stream will reboot. At this time, the related property cannot be accessed.
- Resolutions on stream1 and stream2 cannot be changed at the same time.
- 610LT models have removed some functionality available in the 610 standard models. This removed functionality is IR illuminator support, SD card support, and TV input/output support.
- The Illustra 210 models have no support for Region of Interest, Face Detection and Pseudo Multi Pass Encoding.

American Dynamics Fixed Camera (Illustra 600, 610 and 600LT Series Box and Bullets)

Supported Firmware

- v1.0.16 or later

Supported Key Functions

- Video Streaming (MJPEG, H.264 and Dual Streaming supported)
- Audio Streaming
- Dry Contact Event (1 Contact Polling every 100ms)
- Query Device
- Reboot

Unsupported Key Functions

- PTZ Operation
- Power off Devices
- Get Device Log
- Find Devices
- Reset to Factory Default

Audio/Video Streaming Feature

- The rtsp audio only stream URL is:

  rtsp://camera_ip/audio.sdp
- The rtsp video only stream URL is:

  rtsp://camera_ip/video.sdp

  or

rtsp://camera_ip/video2.sdp

- The rtsp A/V mixed stream URL is:

  rtsp://camera_ip/live1.sdp

  or

  rtsp://camera_ip/live2.sdp

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTP/RTSP

Default Username & Password

- Username: admin
- Password: admin

Limitations

- When a factory defaulted camera is added to an NVR, the default settings are: H.264, 7 FPS, CIF. When the user wishes to change the settings they can for single streaming increase the FPS and resolution to max and click Save. For dual streaming, user can enable 2nd stream by selecting Alarm or Record. They should change the codec to MJPEG and click Save.
- To meet the highest single stream FPS, the user can enable dual stream on the NVR, configure the stream codec/resolution/fps/quality for Stream 1, and then configure Stream 2 to lowest resolution/fps/quality. Once Stream 2 is configured the user can disable it on the NVR. Alternatively the user can access the camera's web GUI settings to change Stream 2 to the lowest resolution/fps/quality. For some properties' the value is retrieved from camera itself (resolution, frame rate, quality, brightness, contrast, sharpness) result in that when user adds the camera, the return value is not the default value defined in the NVR, but the actual value in camera.
- The camera will reboot when changing codec (audio or video), resolution, frame rate, key frame interval, video quality, audio volume, enable audio/audio in or any other video/audio properties. Average time for reboot is 30 seconds.
- Changing the video/audio codec or resolution may cause the RTSP service in the camera to stop. With the camera failing to restart and set new streams, the workaround is to reboot or power cycle the camera and reset stream settings.
- All streams will be lost when camera reboots and be automatically reestablished on startup.
- When the camera is rebooting, NVR video and audio properties may not be available to get or set. Any changes made to these settings during reboot time will not be saved.
- In the NVR, under image settings the Video Standard will always display NTSC in the dropdown list, irrespective of it being NTSC or PAL. For PAL cameras, FPS will show 25 as max FPS.
- When the primary and secondary streams are configured with the same codec on the camera web GUI, changing stream on the NVR may change the opposite stream to the one you wish to change. Stream 1 and Stream 2 on the NVR will not necessarily reflect primary and secondary

steams configuration on the camera. The camera only identifies the streams by the stream codec (ignoring FPS and resolution). In some instances when NVR streams are both configured with the same codec, changing one of the streams will not necessarily change the parameters on the specified stream.

- It is recommended to configure the camera to the cameras FPS limitations. If the parameters exceed the limitations, the camera performance may be affected. Factory defaulting the camera, and adding to an NVR can resolve this performance issue. Once this is completed, reconfigure the camera stream without exceeding stream limitations. Please refer to camera release notes.
- If the dual stream resolution/FPS is high, the video may be abnormal, a reboot or factory default may resolve this issue.
- Changing the resolution, quality or bit rate of either stream (even when second stream is not active) may affect the frame rate performance. Please refer to the camera release notes for additional information.
- It is recommended to only change one video codec parameter at a time to avoid stream corruption.
- Due to the 2 variants of FPS supported by either MJPEG or H.264, it is recommended to first only change the codec, and then change the resolution and frame rate, or the operation will fail.
- Video and audio are out of sync when playback in victor unified client while live view is sync.
- Wrong sequence number in RTSP video stream is received in NVR which causes missing frame.
- After soaking for 4 days, video disordered and large timestamp in video is observed. Normal interval is circa 5000 but 200000 is found.
- The NVR handler does not support *VideoCodecKeyFrameInterval*, but the user can change it from the camera web GUI.
- Jitter will be observed in live view via the NVR and victor, due to camera performance limitations. This due to the camera taking more than 33 ms to send out the key frame. This does not happen in recorded video. Refer to camera release notes.
- RTSP and HTTP stream might be unavailable when user frequently change codec, resolution and FPS too quick. A waiting time of 2 minutes is recommended.
- i600 & i610:WW: When dual streaming with CBR set to 4M, when enabling motion detection and recording to SD card, FPS will drop to less than 10 FPS. This is due to a camera performance limitation. Please refer to camera release notes.

Special Points

- Do not add the same camera to more than one NVR.
- When the camera is added to NVR, it is recommended not to change settings from the camera web page (especially video and audio) because the change may need to reboot the video codec and this will affect the NVR.
- There is a jitter on H.264 streams if opening dual streams for Illustra 610 cameras. (Stream 1: H.264,1920x0180 25 FPS & Stream 2: JPEG, CIF, 7 FPS). To improve performance, lower the Frame Rate or resolution of the second stream.
- When changing between PAL and NTSC, the FPS will change as the same rule. The maximum FPS will raise to 30 when PAL is set to 25 and changed to NTSC
- It may take 2 minutes when changing other FPS to 3 FPS. The reason for this is a mismatched GOP and frame rate will cause a longer re-connection time due to waiting for another frame. GOP size is much larger than Frame Rate, it may take a longer time for video to restart.

- Some properties are normalized to a percentage (1-100), but the real value in camera is a range from 0 to 255. This results in the values in NVR not covering all values in camera.

American Dynamics Illustra 625 PTZ, Illustra 600/610 Compact Mini-Dome Cameras

Supported Firmware

Camera	Model	Firmware Version
Illustra 625 PTZ, 1080p, 20x indoor, no bubble, non-vandal, black	ADCi625-P132	1.0.0.A4484AAA806
Illustra 625 PTZ, outdoor, clear, vandal, white	ADCi625-P121	1.0.1.A4491AA810
Illustra 625 PTZ, outdoor, clear, non-vandal, white	ADCi625-P122	1.0.1.A4491AA810
Illustra 625 PTZ, outdoor, smoked, vandal, white	ADCi625-P123	1.0.1.A4491AA810
Illustra 625 PTZ, outdoor, smoked, non-vandal, white	ADCi625-P124	1.0.1.A4491AA810
Illustra 625 PTZ, 1080p, 20x indoor, Feature Plus, no bubble, non-vandal, black	ADCi625-P232	1.0.2.A491AA929
Illustra 625 PTZ, outdoor, Feature Plus, clear, non-vandal, white	ADCi625-P222	1.0.2.A491AA929
Illustra 625 PTZ, outdoor, Feature Plus, clear, vandal, white	ADCi625-P221	1.0.2.A491AA929
Illustra 625 PTZ, outdoor, Feature Plus, smoked, vandal, white	ADCi625-P223	1.0.2.A491AA929
Illustra 625 PTZ, outdoor, Feature Plus, smoked, non-vandal, white	ADCi625-P224	1.0.2.A491AA929
Illustra 600 Compact Mini-Dome 720p	ADCi600-M111	1.0.8.12
Illustra 600 Compact Mini-Dome 1080p	ADCi610-M111	1.0.8.12
Generic - all unlisted cameras that are compatible with AD iAPIv3 specification document v1.0.1	N/A	N/A

Illustra 625 PTZ Feature Plus (ADCi625-P2xx) Support

- Firmware 1.0.2.x or later

Supported Key Functions

- Video Streaming (Single and Dual)
- Video Codec - H.264 and MJPEG
- PTZ - Applies to cameras that have mechanical Pan, Tilt and Optical Zoom
- Query Device

Unsupported Key Functions

- Find devices
- Reboot device
- Power off device
- Get device log
- Reset to factory default
- Digital PTZ - Applies to cameras that can support digital PTZ

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: admin

Audio/Video Streaming Feature

Common characteristics:

The specific Auto/Video Stream feature characteristics by model families are:

Model Family	Audio/Video Stream Feature
Illustra 625 PTZ: ADCi625-P132 ADCi625-P121 ADCi625-P122 ADCi625-P123 ADCi625-P124	**1** MJPEG and H.264 **2** Support Dual video streams
Illustra 625 PTZ Feature Plus: ADCi625-P232 ADCi625-P222 ADCi625-P221 ADCi625-P223 ADCi625-P224	**1** MJPEG and H.264 **2** Support Dual video streams
Illustra 6x0M Compact Mini-Dome: ADCi600-M111 ADCi610-M111	**1** MJPEG and H264 **2** Support Dual video stream
Generic	**1** Assume MJPEG, MPEG4 and H264 **2** Assume Dual video streams **3** Assume G711a, G711u, AAC and G726 if Audio capability is detected

The creation/deletion of audio streams does not affect previously created video streams.

Event Stream Feature

Maximum number of dry contact events supported by model families are:

Model Family	Number of Sensor Input
Illustra 625 PTZ ADCi625-P132 ADCi625-P121 ADCi625-P122 ADCi625-P123 ADCi625-P124	0
Illustra 625 PTZ Feature Plus ADCi625-P232 ADCi625-P222 ADCi625-P221 ADCi625-P223 ADCi625-P224	1 ~ 4

Model Family	Number of Sensor Input
Illustra 6X0M Compact Mini-Dome ADCi600-M111 ADCi610-M111	0
Generic	Auto Detect

Limitations

- Digital PTZ is not supported.

Note

Please refer to the American Dynamics Illustra 625 PTZ Camera Release Notes for additional information

- i625 NVR Image Settings - Auto Focus and Auto Iris values on the NVR GUI are only able to send a enable Auto command. These will not show current status of the feature. The user can set manual iris and focus on the victor live surveillance pane. To check status of auto focus/ iris users should use the i625 Camera GUI.
- i625 PTZ Day/Night controls are currently available on the camera GUI only.

Known Issues

- Generic Function: The handler will attempt to auto detect most features such as VPA/LENS properties, PTZ/Focus/Iris/Audio/Dry-Contact capabilities.
- For i625 PTZ Cameras, the NVR GUI may provide feature options for Audio and Alerts Dry Contacts both Feature Plus and non-Feature Plus cameras. Currently these features are unsupported on the handlerand should not be used.

i625 MJPEG Usage Consideration

MJPEG video does not use any temporal compression but uses spatial compression. This makes its bandwidth requirements much greater than H.264.

General recommendation:

- Maximum Possible Quality Setting: 100
- Recommended Maximum Setting: 90
- Recommended High Quality Setting: 75
- Recommended Medium Quality Setting: 55

In addition to the above, MJPEG at high resolution and frame rate will use a very large amount of bandwidth. For high resolution, the following is recommended:

Resolution	FPS	Recommended Max Quality
1920x1080	30	60
1920x1080	15	70
1920x1080	7	80
1280x720	30	70
1280x720	15	80
1280x720	7	90

Quality setting may need to be adjusted depending on the scene

Special Points

- The Compact Mini-Dome uses 'Stream Priority' for dual streaming. The resolution / fps of Stream 2 will be automatically lowered depending on the settings of Stream 1, to remain within the capabilities of the camera. If a user selects resolution / fps settings which are too high for the camera to accommodate, the NVR will disregard the user's setting and set lower resolution / fps on Stream 2.
  It is advisable to first set Stream 1 to desired settings after adding the camera to the NVR and then setting Stream 2.
- NVR Configuration Stream may fail when user is streaming live video on the Camera GUI and setting up streaming configuration on the NVR at the same time. It is advisable not to stream live video on the camera GUI while configuring camera streams on the NVR.
- Video live streaming on the camera web GUI may fail to start if the camera GUI is left open during the NVR configuration. User should log out of the camera then log back in again.
- Compact Mini-Dome MJPEG stream is used at 1920x1080 resolution, fps 30 and Quality 70, the actual frame rate may be lower than requested. Some video stuttering may also be observed and the occasional video freeze. This is to due to the high bandwidth that the MJPEG stream uses. It is recommended to lower fps and/or quality settings.

American Dynamics IP SpeedDome

Serial Number

NVR will use the camera's MAC address as the camera serial number.

Supported Key Functions

- Video Streaming 4 max
- Video Codec – MJPEG, MPEG4 and H.264
- Audio Streaming – Audio codecs are AAC, G.711 ulaw and G.711 alaw. No PCM audio stream
- Mechanical Pan and Tilt and Optical Zoom
- Dry Contact Events – Up to 4 dry contact events are support. The camera is polled for dry contact event at 30s interval.
- Query Device

PTZ Methods

- PTZSpeed
- PTZNudge: Zoom, Pan, Tilt
- PTZFilp
- Preset: Add, Set, Select, Clear Preset
- Pattern: Select, Record (Begin, End, Cancel), Clear

Required Network Ports

- Port 5001 is for IDP (command and control)
- Port 554 is for RTSP

Default Username & Password

- User name: admin
- Password:admin

Bandwidth Efficiency

Bandwidth efficiency has been improved for American Dynamics IP SpeedDome cameras running firmware version 2.0 or later.

The VideoEdge NVR will use an algorithm to control video quality according to the camera firmware version. If version is less than 2.0, the video quality will be altered by changing cameras quality value. If version is 2.0 or later, the video quality will be altered by changing the camera's bitrate value. The conversion from quality to bitrate is:

Camera Firmware	Approx Bitrate at Quality Setting (Max FPS, Max Resolution)				
	20	**40**	**60**	**80**	**100**
PAL v1.x firmware	1,140,000	5,240,000	9,220,000	16,780,000	25,160,000
NTSC v1.x firmware	1,180,000	5,320,000	8,160,000	15,100,000	24,750,000
PAL v2.x firmware	278,600	557,000	1,080,000	2,130,000	4,220,000
NTSC v2.x firmware	290,000	550,000	1,070,000	2,120,000	4,200,000

Note

Since the NVR uses CBR to control bitrate, the bandwidth of H.264 and MPEG4 are the same. This handler does not support VBR.

Limitations

- Only one audio stream (G711aulaw or G711mulaw) can be used at one time
- Dual video streaming supports H.264/MJPEG and MPEG4/MJPEG, but does not support H.264/MPEG4.
- No PCM audio stream
- Unable to add an IP SpeedDome if it is beyond the IP broadcast range of the NVR
- If Auto Flip is disabled, then the amount of distance of tilt down will be larger when it is close to -90 degrees than other positions.
- If Auto Flip is enabled, then the tilt down operation in NVR will lock the motor which make auto flip failure because the tilt down in NVR is not continues (e.g. moveBy) and the moving amount of distance is very tiny.
- Camera digital PTZ is not supported in this release. So it is not implemented normalization for digital PTZ part.
- In H.264 single stream, the maximum frame rate is 20fps @ D1 resolution @ quality 70.

- The maximum frame rate in dual streaming mode is:
    - When codec is H.264/MJPEG:
        - The maximum frame rate for the H.264 stream is 15fps @ D1 resolution @ quality 70, or 25fps @ 2CIF resolution @ quality 70, or 25fps @ D1 resolution @ quality 40; while the secondary MJPEG stream is 7fps @ CIF resolution @ quality 70
    - When codec is MPEG4/MJPEG:
        - The maximum frame rate for the MPEG4 stream is up to 30fps at any resolution and quality if the secondary MJPEG stream is set to 7fps @ CIF resolution @ quality 70. If the secondary MJPEG stream is set to 25fps @ D1 resolution @ quality 70, then the frame rate for the MPEG4 stream is up to 25fps @ D1 resolution @ quality 90.
- The zoom speed is fixed.
- Audio will not work unless it is enabled through the camera web interface.
- In victor, the Iris restore button does not work for ADIPDome Camera on victor Surveillance view.

Known Issues

- When using IP Dome firmware 2.0.0.645 for streaming H.264 only, users should not use rewind instant play back with victor client. Users should use Search and Retrieve, or don't configure using a H.264 stream.
- The default values for some properties defined on NVR are different from camera's default.
- The dry contact state always returns unknown.
- The definition of preset and pattern in NVR might be changed by user via web-client.
- The NVR will not recognize any presets or patterns already on the dome when it is added to the NVR.
- The NVR will not recognize any presets or patterns added to the dome via its web interface and in fact the NVR may overwrite them.
- Preset and pattern definitions made on the NVR will be mirrored to the device, but not the other way around.
- Preset and pattern definitions should be retained in case of network loss or disconnection / reconnection.
- Preset and pattern definitions will not be deleted when the dome is deleted from the NVR.
- Clients should show only the presets and patterns that have been defined using the NVR (not all 96 slots, defined or not). Presets and patterns defined through the device web configuration will not be shown
- When using the settings H.264 codec, D1 resolution, 25/30 (PAL/NTSC) FPS and the quality is above 90, video will freeze when opening Live View.
- Iris restore button does not work for when using surveillance with victor.

Note

Please refer to the AD IP SpeedDome Release Notes for additional information.

ACTi Corporation

Supported Key Functions

- Video Streaming
- Query Device
- Dry Contact Events
- Reboot

Unsupported Key Functions

- Audio Streaming
- PTZ
- Power Off
- Get Log
- Restore Factory Defaults
- Find Device

Minimum Firmware

- For ACM models – v3.13.16-AC
- For TCM models – v4.11.09-AC

Required Network Ports

- Port 80 is for HTTP
- Port 7070 is for RTSP

Default Username & Password

- Username: admin
- Password: 123456

Supported Resolution

All resolutions less than or equal to 1280x720 are dynamically acquired by the camera.

Limitations

- Resolutions larger than 720p are unsupported due to an incompatible algorithm used by the camera when the stream's resolution is larger than 720p.
- HUE feature on all cameras is unsupported, due to the manufacturer’s recommendation not to change HUE and not to use VIDEO_HUE command for ACTi cameras.
- Due to camera limitation, the actual frame rate might be higher or lower than the requested frame rate. (Please refer to ATP results).
- For some cameras, RTP stream is not enabled by default. The handler will enable it before creating the stream pipeline. Do not change the stream method while configured on the NVR.
- By default, the B2 header function of the camera is enabled, which is not supported by the NVR. Therefore, the handler will disable this function when a camera is added to the NVR. Don't enable B2 header while camera is added to NVR.
- Dry contact active state in NVR is read-only, this cannot be modified.
- The scope of the image will be changed with a change of resolution, but the base pointer is neither the image’s corner nor center.
- The handler will use FPS as GOP. This is because when the camera streams on the RTP protocol, GOP is fixed to 0, which means 1 key frame per second.
- Due to the camera's FPS limitation. When single/dual streaming the FPS available is dependent on several factors e.g. a codec or resolution change may cause FPS on both streams to change.
- Due to the camera's limitation, camera will add to NVR with a lower FPS than supported. When adding a dual streaming camera to the NVR both streams’ codec will be set to H.264 highest resolution. Even if the second stream is not actively configured on the NVR, it is still affecting full FPS performance on stream one – in order to extend stream one FPS the user is required to lower the resolution on stream two.
- The hander will restart the stream when the resolution or codec is changed, which may cause a video loss for a few seconds.
- The contrast in camera web GUI displays as 0-100, but the vendor asked us to support 1 to 100, so the contrast supported in NVR GUI is 1-100.
- Focus and iris functions are excluded from support, because all cameras do not support them. However it is possible that future cameras will support these functions.
- WDR feature is currently not supported due to the related API VIDEO_WDR not working correctly on the official release.
- If the FPS is set to variable mode in the camera's web GUI, the NVR field for FPS will automatically become read only.

- The ACTi generic camera driver will not support the following features:
    - Image settings:
        - •Lens day/night mode
        - •Brightness
        - •Contrast
        - •Sharpness
    - H.264 stream
- Resolutions larger than 720p are unsupported. Should a camera support a higher resolution, this will not be available via NVR.

Known Issues

- The TCM3511 has an issue with Reverse playback in the VEClient. The user will experience a stutter with the H.264 stream due to the first key frame being received every second.
- Interval between video frames (frame spacing) is not always stable, but video is not affected - no video freeze, stutters or pixellation have been observed.
- Due to camera stream limitations, in dual streaming a change in codec or resolution on one stream may cause another stream's FPS to be changed. The handler is not able to force the NVR camera details to refresh the web page, therefore, the displaying FPS may not be right. Refreshing the web page will update the properties.
- The minimum FPS recommended for ACTi stream configuration should be above 3, due to FPS 1 or 2 causing the following issues:
    - NVR and victor refresh frequently (including the Video panes refreshing)
    - The time stamp interval between the nearest frames is incorrect

Error Messages

- Sometimes adding an ACTI camera onto the NVR may fail with a timeout message. This is caused by 1) APIs for codec and FPS work very slowly. Codec API may take up to 4.9 seconds and FPS API may take up to 2.5 seconds. Or 2) as specified by ACTI support, frequent API calls may cause the camera to work abnormally.

  Resolution: Add camera to NVR again.

  To avoid this issue, it is recommended configure camera as following before add to NVR:

  ACM: @ MJPEG @Highest-Resolution @highest-fps

  TCM: Dual stream @H.264 @ Highest-Resolution @highest-fps
- Restoring factory defaults may cause the camera to 1) crash; 2) NVR report timeout when adding it into NVR; 3) Camera to report "Please contact your provider. Error code: 00000001, other error" when trying to connect to the camera GUI.

  Resolution: Hardware reset
- Camera may crash when POE/power cable are unplugged and plugged in again. When the issue happens, the camera's web GUI may display "01072915212: Rtsp:Error. Create socket 01072915214:Rtsp:Error. create socket".

Resolution: Power Cycle first. If problem persists, carry out hardware reset.

- Sometimes the camera's web GUI will report "Error: Streaming Engine is not running", when the issue happens there is no stream given out. The camera can be restored after a manual reboot.

  Resolution: Hardware reset

- Sometimes modifying contrast or saturation will cause the camera to crash, when this happens, the user may receive the following message on the camera's web GUI: "Please contact your provider. Error code: 00000001, Other error".

  Resolution: Hardware reset

Special Points

- Do not factory default unless necessary, because sometimes it may cause many issues (refer to above known issues and limitations)
- Do not modify the camera's root user name. This is because the NVR only supports a password change.
- Do not add one camera into two or more NVRs.
- When the camera is added to the NVR, it is recommended not to change settings from the camera web page.
- When the camera is added onto the NVR, do not turn off "stream on RTP" setting, this will cause camera stop providing a live RTP stream.
- When the camera is added into NVR, do not change B2 header setting, this will cause the NVR to be unable to parse the stream.
- Only constant FPS mode is supported in RTP streaming due to camera limitation.
- The NVR Video smoothing function is enabled on this handler because the NVR stream refreshes frequently when it is disabled.
- NVR will display 1 when the camera's contrast setting value is 0. Refer to above limitation for detail.
- Handler had hard coded the camera's connection count to 1. Because the connection count is missed in some cameras' response data.
- Before adding a camera onto the NVR, it is recommended to set the settings as close as the handler defaults (H.264 / MJPEG 5FPS 1280x720) , otherwise adding action may fail with a timeout error. Refer to above known issues.

Arecont Vision

Supported Key Functions

- The Arecont Vision AV8xxx employs four, two-megapixel cameras in 180˚ or 360˚ panoramic views. Models are available in a variety of options including H.264 or MJPEG video formats, Day/Night, Heater/Blower, recessed or IP66 housings.
- Using the American Dynamics victor unified client, operators can view each image independently or combination of them in a multi camera view in victor.
- Video Streaming – Single and Dual
- Video Codec – MJPEG and H.264 (Note: AVxxx0 models only support MJPEG)
- Query Device

Camera Serial Number

NVR will use the camera's MAC address as the camera serial number.

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: <no password required>

Limitations

- It is advised that the user does not configure the same camera on two NVRs at the same time. This is due to ssn accumulation in the streaming URL on the handler, therefore only one camera can be accessed by one NVR at the same time.
- The Arecont 10MP camera(AV10XXX),will not support NVR motion detection as its lowest supported resolution exceeds NVR limitations.
- Due to a Quicktime player limitation, for 10MP cameras, the video stream with a full resolution (3648x2752) can't be streamed on the NVR web page.
- Streaming large amounts of data to Quicktime may cause a distorted image to appear. This is due to Quicktime or the network card on the host on which Quicktime is running, preventing large bit rate streams particularly during the start up of H.264 due to the bursting of all frames since the previous Key frame. This result may be a green/mosaic screen especially on motion scenes. This may occur for both live and historic playback on NVR and Victor client.
- The AV8xxx will be viewed with victor Client. Not all functionality is supported by the Web-Client.
- Due to a camera limitation, the actual frame rate may be lower than the requested frame rate.
- Due to a camera RTSP performance limitation, for AV8XXX series, the camera can only deliver approximately 2 FPS per lens.
- Due to an NVR performance limitation the max fps is limited to 30 for AV1115, AV1125, AV1315, AV1325, AV2115, AV2125.
- For AV8XXX, AV20XXX models it is highly recommended to have all four inputs from the camera set to the same storage section in the VE-NVR. Mixing may cause mixed retention times for some inputs compared to others.
- In order to control bitrate of the H.264 stream the user can set quality levels via the NVR camera stream detail page. The bitrate will change according to a number of factors: complexity, light change and movement in the scene. In a scene with a lot of movement at the lowest quality, the bitrate of the stream will be higher than in a still scene at the highest quality.
- Due to a camera limitation, the bitrate and quality cannot be set through the camera's web interface. The bitrate and quality values have to be included in the RTSP URL for them to work.
- When upgrading the camera handler pack, note that the parameters of video streams may be changed to the default values. It is recommended to recheck video codec parameters when upgrading or restoring configuration backups.
- Due to a camera limitation, for Arecont cameras all MJPEG only cameras (Arecont: AVxx00, AV8180, AV8360 - CBC: MP1A, MP2A, MP5A and MP8D-L4) will stream at a higher FPS (reaching max FPS) when setting to 15FPS. FPS of 14 and lower are not affected by this issue.
- NVR 4.1 or above motion detection can only handle a resolution of 800x600 (or 800x592), not 1600x1200 (or 1600x1184) for AV8XXX cameras. (Maximum resolution for NVR to handle motion detection is 1280x960).
- Due to a camera MJPEG video stream non-compliance, motion detection might not work on some models.
- For AV8XXX cameras, motion detection can only be enabled if single MJPEG is set for every lens.
- VideoEdge NVR requires a minimum of four (4) frames per second to provide reliable motion search results. Due to the limitation of the Arecont Vision camera to produce two streams at the minimum frame-rate required for motion data generation video motion search performance will vary.
- The AV8xxx provides an option to "Equalize Brightness" across all four imagers. This will cause all the lenses to have the same brightness as the first lens. The VE-NVR camera handler has this value unassigned when cameras are added. If the camera has this value set by the camera's web configuration page the camera's brightness cannot be changed by the NVR.

- Due to camera performance limitation and network status, refreshing the camera list within the Victor Client may take 0.1 to 1 second to get each property from the camera. In addition changes to properties on the VE-NVR may take 2 to 30 seconds.
- AV818X and AV2018X are 180° view cameras. Its layout is 4x1 and its sequence is "1,4,2,3". Therefore to display a full view of 4X1, Victor Client should be used. In order to display all cameras correctly the images of input 1 and 2 are inverted 180° by default.
- AV836X and AV2036X are 360° cameras. Its layout is 2x2 and its sequence is "1,2,3,4" and has no rotate issue (all are the same).
- Different Arecont panoramic camera models may produce different bit rates for the same scene.
- Due to the camera firmware issue on AV8185DN, the camera stream may restart on the NVR.
- Due to a camera hardware limitation, for AV8185 and AV8365 cameras, the sensor size is 1600x1200, so the NVR resolution setting is 1600x1200, but it streams at 1600x1184

Known Issues

-
- NVR receiving H.264 frames with timestamp prior to last one received for cameras AV3105, AV5105, AV8365, AV10005. (Arecont ticket: TECHSUP-20512)
- A number of Arecont cameras have been identified as having firmware issues where cameras may unexpectedly stop sending Frames for a short time (3-7 seconds). In some instances this will trigger a lost video alert. Cameras where this issue has been observed are AV3115DN, AV5125IR, AV8185DN. (Arecont ticket: TECHSUP - 15613.
- AV8185, AV10005 series - observed 7 seconds of video loss on camera stream several times this is a firmware issue. (Arecont ticket: TECHSUP-15751).
- For some properties' the values are retrieved from the camera itself (e.g. resolution). When an Arecont camera is added to the NVR, the return value is not the default value defined in the NVR, but the actual value in camera.
- For Arecont's MJEPG version cameras, the D/N camera does not return suffix DN for the model. So NVR will not get D/N option.
- On Internet Explorer, if changing the default user name and password, the camera may not be accessed successfully.
- Due to camera firmware defect, the camera does not return the full model name, the NVR cannot support the daynight and auto Iris settings for all the Arecont cameras. The settings can be configured in the settings via the camera web GUI. (Note: Please refer to the Arecont Vision Camera Release Notes published by Arecont Vision for additional information.)
- victor 4.3, 4.4(7.0.492.46) if the recording is played in reverse, the recording will jump several seconds and pause after playing for about 40s. This is a bandwidth issue. The Arecont camera is a HD camera, therefore there is a lot of data in the network at the beginning of playing in reverse on victor.
- On the AV8185 camera, the camera continually rebooted itself during daytime hours. This was caused by the NVR smoothing mechanism.
- Higher video bit rate may occur under low light conditions, which may cause video loss.
-

Special Points

- It is recommended when the camera is added to the NVR, not to change any property parameters on camera web GUI.
- Arecont only support two resolutions, one is half, the other is full, and we will convert it to width x height according to the actual picture size.
- MJPEG over RTSP is not supported.
- Video Codec Properties are all set to DB. The properties on the camera web page are not used, and these settings are for default stream fetching by web.
- Internet Explorer may cache the history data, if Internet Explorer is used to get the properties of an Arecont camera by the direct URL (such as http://<ip>/get1?brightness), a page refresh should be used to get new data.
- Brightness and sharpness are retrieved from the Arecont camera GUI. There for if the user changes the value on the camera GUI it will change the values displayed on NVR.NVR's value range can't cover all the values of the device.Camera's range is -50, 50 and NVR's range is 1,100. The normalization will be: -50,-41 to 1,10 and -39,50 to 11,100. -40 is not normalized. When the value is read from camera, it is normalized to 11.
- The range of image quality for H.264 is (17, 36). And the normalization are:

36	5
35	10
...	
21	100

- Arecont default has blank username and password. Users can use any password or username to access the camera. But if the password has been set to user admin or viewer, users should use correct username and password to access the camera. Only by doing "Factory default" can set the password to be blank. (NOTE: a blank password does not mean ZERO length string. If user empties the password input in camera's web page, and saves to the camera, still means there is a password set.)
- The VideoCodecKeyFrameInterval is the same for all 4 lenses. The default value is set to 30 by the handler and the camera's default value is 51. (NOTE: the panoramic camera's register address for key frame interval setting is [3:100] not as the individual camera's [3:21]. The setting value is the p frames number between I frames, not containing I frame. (For example, if user wants to set key frame interval 30, the http command should be http://<cameraip>/set?page=3&reg=100&val=29))
- Models AV8185DN or AV8365DN retrieved by http://<cameraip>/get?model has a "DN" suffix after the digital model value, i.e. 8185DN or 8365DN, while single lens DN cameras return only digital model value without "DN" suffix, for example, AV3105DN camera returns 3105, not3105DN. User can get the model type with "DN" suffix by http://<cameraip>/get?model=fullname(Confirmed by Arecont supporter). Anyway, what is displayed on NVR should be a full model type, which means DN camera should have "DN" information in camera model type.
- For H.264 stream, using default bitrate=8192 Kbits and qp=24.
- For saturation range from camera to NVR, its mapping relationship is:

1	0
2	20

3	40
4	60
5	80
6	100

Supported Resolutions

Model	Maximum Resolution	Resolution Options on NVR
AV1115	1280 x 1024	1280 x 1024 & 640 x 512
AV1125	1280 x 1024	1280 x 1024 & 640 x 512
AV1300	1280 x 1024	1280 x 1024 & 640 x 512
AV1305	1280 x 1024	1280 x 1024 & 640 x 512
AV1310	1280 x 1024	1280 x 1024 & 640 x 512
AV1315	1280 x 1024	1280 x 1024 & 640 x 512
AV1325	1280x1024	1280 x 1024 & 640 x 512
AV1355	1280 x 1024	1280 x 1024 & 640 x 512
AV2100	1600 x 1200	1600 x 1200 & 800 x 600
AV2105	1600 x 1200	1600 x 1200 & 800 x 600
AV2110	1600 x 1200	1600 x 1200 & 800 x 600
AV2115	1920 x 1080	1920 x 1080 & 960 x 540
AV2125	1920 x 1080	1920 x 1080 & 960 x 540
AV2155	1600 x 1200	1600 x 1200 & 800 x 600
AV2805	1920 x 1080	1920 x 1080 & 960 x 540
AV2815	1920 x 1080	1920 x 1080 & 960 x 540
AV2825	1920x1080	1920 x 1080 & 960 x 540
AV3100	2048 x 1536	1024 x 768
AV3105	2048 x 1536	2048 x 1536 & 1024 x 768 (1024 x 768 only for MJPEG)
AV3110	2048 x 1536	1024 x 768
AV3115	2048 x 1536	2048 x 1536 & 1024 x 768 (1024 x 768 only for MJPEG)
AV3125	2048 x 1536	2048 x 1536 & 1024 x 768 (1024 x 768 only for MJPEG)
AV3155	2048 x 1536	2048 x 1536 & 1024 x 768 (1024 x 768 only for MJPEG)
AV5100	2560x1920	1280 x 960
AV5105	2560 x 1920	2560 x 1920 & 1280 x 960 (1280 x 960 only for MJPEG)
AV5110	2560 x 1920	1280 x 960
AV5115	2560 x 1920	2560 x 1920 & 1280 x 960 (1280 x 960 only for MJPEG)
AV5125	2560 x 1920	2560 x 1920 & 1280 x 960 (1280 x 960 only for MJPEG)
AV5155	2560 x 1920	2560 x 1920 & 1280 x 960 (1280 x 960 only for MJPEG
AV20185DN	2560x1920	2560x1920 &1280x960
AV10005	3648x2752	3648x2752 & 1824x1376
AV8180	1600x1184	1600x1184 & 800x592

AXIS Communications

Supported Key Functions

- Video Streaming – Single and Dual
    - Video Codec – MJPEG, MPEG4 and H.264
- Audio Streaming
    - Audio codec supported depends on camera functionality
- Dry contact events

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: root
- Password: pass

Note

These are associated with password group 0 (default)

Supported Camera API and Models

- Camera API: VAPIX 2 and VAPIX 3. The NVR will interface with any AXIS Cameras that support VAPIX 2 or VAPIX 3. The feature and performance of the cameras might vary due to VAPIX 2 or VAPIX 3 or camera limitations
- Model: Models that support VAPIX2 and VAPIX 3 Camera API. If the camera model is not on the list, then select AXIS-generic

Camera Serial Number

NVR will use the camera's MAC address as the camera serial number.

Supported Key Functions

- Video Streaming – Single and Dual
- Audio Streaming – Audio codec supported depends on the camera.
- PTZ – Applies to cameras that have mechanical Pan and Tilt and Optical Zoom.
- Dry Contact Events
- Query Device
- Reboot Device

Video/Audio Stream Feature

- For VAPIX 3 cameras, all MJPEG, MPEG-4 and H.264 streams can have different frame rates, resolution and quality.
- Cropped resolutions are not supported and do not appear in the resolution selection list.

Limitations

- Due to a limitation in the AXIS Encoder PTZ support, AD Ultra 8 analog PTZ presets are not supported on AXIS Encoders.
- When working with AXIS encoders the number of Presets is supported at:
    - 32 for Pelco analog cameras. It is known from AXIS that this is a Pelco driver limitation
    - 20 presets on M7001 encoder (AXIS Encoder limitation)
    - 50 for Bosch analog cameras
- Preset capabilities for the UltraDome 8 analog cameras do not function properly with the AXIS encoders. This issue is not limited to the Victor Client; it occurs when trying to add/select/delete presets through the AXIS web interface itself as well. This is an AXIS encoder issue. As AD Ultra 8 analog cameras do not support presets, they can be added on NVR GUI and victor client, but do not function when executed.
- For Pelco analog cameras added to M7001 will produce shaky video and video loss .
- For cameras that claim to support absolute and auto focus but fail to provide minFocus and maxFocus (the focus range), the NVR web page (Image Settings -> Lens/Sensor) will display the Auto-Focus option but will not display the focus range when Auto-Focus is disabled. The AXIS 215 is an example of such a camera.
- The victor client activity window shows an unexpected extra offline entry and online entry for the AXIS 207W camera after it has been disconnected and then reconnected. This second offline/online entry is due to an issue with the AXIS 207W camera
- Q1755 will still show up as a PTZ camera on victor client, however, only the zoom function is supported.

- Older versions of the AXIS handler may have set the “exposure”, “input gain”, “wdr” and other parameters on some AXIS cameras to invalid values.
- The camera’s web interface can be used to determine whether the camera parameters have been set to invalid values. Click “Setup->System Options->Advanced->Plain Config” and then select the appropriate parameter group (image source, PTZ, etc). The invalid values will be displayed but will be appended with “(not supported?)”. The AXIS handler will also see the “(not supported?)” in the parameter value strings it reads from the camera. If any invalid values are found then use the camera’s web interface to change them to valid settings.
- An attempt to add a preset to AXIS encoders (with AD Ultra 8 analog PTZ camera) will result in a “Error: query not implemented” HTTP error being returned in response to a “http://<ipaddress>/AXIS-cgi/com/ptz.cgi?query=position&camera=1” HTTP request. The reason for this is that the Sensormatic driver for the AD Ultra 8 camera does not allow the position to be queried. The parameter list retrieved from the encoder will report that absolute pan, tilt, zoom is not supported
- When a four channel encoder is added to the NVR, camera slots will be created for all four ports regardless of whether the encoder inputs are receiving analog signals. If an analog signal is not preset, black video will be received by the NVR and recorded / streamed to viewing clients. To conserve NVR disk space and reduce network traffic, the camera slots associated with the unused inputs can be deleted from the NVR but they cannot be added again unless the entire encoder is deleted and re-added.
- The latest firmware (4.47) in the AXIS 210A camera and some other VAPIX 2 camera and encoder models have an issue that limits the FPS of MJPEG streams to the FPS of an existing MPEG-4 stream until the MPEG-4 stream is destroyed. For example, if the configured FPS of two MJPEG streams are 20 FPS and 5 FPS and the FPS of the MPEG-4 stream is 15 FPS then the actual FPS of the MJPEG streams will be 15 FPS and 5 FPS until the MPEG-4 stream is destroyed. Similarly, if the MPEG-4 stream is 1 FPS then the actual FPS of the two MJPEG streams will be 1 FPS. A workaround is to ensure that the FPS of an existing MPEG-4 stream is greater that the configured FPS of the MJPEG streams. Another workaround is to revert the AXIS firmware to an older version (4.40 for example) which does not exhibit this symptom.
- After an AXIS camera has been disconnected from the network, it can take up to 22 seconds to raise an alarm and attempt a reconnect after the dry contact connection to the device is lost. However, the loss of the video stream from that camera will be detected within a few seconds and an alarm will be raised.
- If the camera’s own web GUI is used to rotate an image (instead of using the NVR web client “Image Settings” screen) then the change does not take effect on existing streams until an FPS or resolution change causes the stream to be destroyed and recreated. It is better to use the NVR web client “Image Settings” screen to rotate the image because that will cause the stream to be destroyed and recreated.
- When using /AXIS-cgi/com/ptz.cgi?camera=1&areazoom=<int>,<int>,<int less than 100> AXIS API to zoom out on AXIS 214 PTZ camera, the zoom position will reverse to maximum zoom in when the request causes a zoom out to go beyond the widest zoom out position. This, according to AXIS technical support, is a bug within the AXIS 214 PTZ camera (v4.40). The above mentioned API is used by NVR Web client and VE API to perform PTZ Nudge operation.
- An AXIS VAPIX 2 camera will momentarily disrupt an MPEG-4 video stream as a result of changing the audio codec which causes the NVR to stop/recreate the video stream. During recorded playback by Victor Client, a blank image appears for a very short period at the point in time where the audio codec was changed.
- If the customer needs to change the active state of a dry contact input then it should be changed before adding a corresponding alarm sensor otherwise an alarm/alert may be caused as a result of changing the active state.
- For H.264 video streams, the NVR web client does not allow the H.264 video quality and H.264 video bit rate setting to be examined or changed. Be advised that the AXIS handler never changes the camera’s H.264 quality, Variable/Constant bit rate mode or H.264 video bit rate settings. If the customer uses the camera’s own web interface to change the “variable bit rate”,

"constant bit rate" or "video bit rate" setting then that change will not take effect on active streams. It will be necessary to cause the NVR to tear down and recreate the video stream. That can be achieved by using the NVR web client to change the FPS setting of the stream.

- The AXIS 221 and AXIS 223 cameras are falsely recognized as PTZ cameras due to the "Properties.PTZ.PTZ=yes" parameter read from the cameras. As a consequence, Victor Client will show the PTZ icon and the NVR web client will show the PTZ link when using the AXIS 221 or AXIS 223M camera.
- The AXIS API does not provide same the functionally across different cameras. When lens WDR property set to "1", the AXIS camera's wide dynamic range settings will be set to "on" for some cameras and for others for WDR"3". Setting to "0" will turn all to "off"
- Audio volume increment can be set in increment s of "3". Current implementation does not incorporate the "mute", "auto" or a non integer value
- The zoom speed on AXIS 233D is fixed
- AXIS Q7406 does not support PTZ positioning query. Hence NVR will not be able to obtain auto-focus and auto-Iris status
- Due to AXIS cameras limitations the NVR is not able to use the same HTTP connection for multiple PTZ functions, which might result in higher PTZ latency
- A change was made to the AXIS handler to designate AXIS camera by VAPIX version
- AD Ultra 8 analog PTZ are not supported on Q7406, 241Q and 243Q
- AXIS 212 can't pan or tilt if the camera is in full zoom out mode
- AXIS 212 can't zoom out stop near full zoom distance and cannot set to full out
- AXIS 214 when to full zoom out position will suddenly zoom in for "some-amount" of distance
- AXIS 221 and 223 are falsely recognized as PTZ cameras
- The NVR web client provides no control for changing the "capture mode" of an AXIS P1346 camera and other megapixel cameras. Therefore it may be necessary to use the camera's own web GUI to set the desired capture mode to enable the use of associated video resolutions. After changing the capture mode, it will be necessary to refresh the NVR web client camera details page to select from the currently available resolutions.
- If an AXIS P5522 PTZ camera is not receiving sufficient power for its PTZ operations then it will disable the PTZ motor and remove the PTZ.Limits and PTZ.Support parameter groups from the camera parameter list. As a consequence, no PTZ controls will be available in the NVR web client and Victor Client for that camera. The symptom may also occur when other PTZ camera models receive insufficient power.
- The default palette setting of an AXIS Q1910 or Q1921 thermal camera can only be changed by using the camera's web interface "Setup -> Video & Audio -> VideoStream -> Image Appearance.Palette". Changing the default palette has no effect on established streams. The NVR uses whatever the default palette is when the stream is established. After the customer changes the default palette then it is necessary to destroy and recreate the stream received by the NVR. The stream can be destroyed and recreated by simply using the NVR web client to change the video frame rate.
- The Sequence portion of the NVR web client PTZ page may appear or disappear when the page is refreshed.
- If the MJPEG quality level is set to 100 at high resolutions (1920x1200 for example) then live viewing problems (high latency, momentary loss of video, etc) may be observed in a Victor Client surveillance screen if that workstation is also trying to live view using the NVR web client. To avoid the problem, either reduce the quality level or reduce the number of live viewing clients that are running on the workstation. Also the FPS provided by the camera may drop dramatically as a result of increasing the quality level to 95 or higher.
- The AXIS M5013 and M5014 have a single speed PTZ movement therefore the camera PTZ movement is affected only by the interval between the start and stop commands from Victor

Client, not the speed values in the start command. The consequence is that PTZ movements may be larger than desired. Refer to QC 9770 for more details.

- The AXIS M3204 and other models that have the exposure setting at “automatic” (default) will reduce FPS to improve image quality when poor lighting conditions occur. To avoid the FPS reduction when the lights are turned off in the room being viewed then change the exposure setting from “automatic” to “hold current” however the consequence is that the image quality could be very poor (dark).
- A frame rate drop or a brief video loss may occur at the moment that lights are turned off in a room being viewed when receiving MJPEG from AXIS Day/Night cameras. To avoid the problem, either use MPEG-4 or H.264 to receive the stream. .
- The NVR Web client allows selection of 8 Kbps audio bit rate and AAC Audio Codec but not the audio sampling rate. Selecting the 8 Kbps audio bit rate setting will result in a loss of audio if the sampling rate is 16 KHz or higher. Use the camera's own web interface to change the audio sample rate to 8 KHz if the 8 Kbps audio bit rate is selected. This limitation occurs on AXIS cameras that support AAC Audio Codec and the 16KHz (or higher) Audio Sample Rate. Please refer to AXIS camera documentation for details.
- After going to a PTZ preset position on an AXIS P5512 camera, the NVR web client will report an error although the camera actually goes to the preset position.
- After enabling dry contact inputs, ensure that LAN connectivity to the camera is maintained otherwise frequent NVR event log messages will be generated about failed attempts to re-establish dry contact event streams and an infrequent reload of the AXIS handler may occur due to a race condition flaw in libcurl version 7.21.3.
- The number of presets allowed is capped at 50 for the victor Client. When working with encoders, only the first 32 presets function properly. AXIS documentation claims each channel can support 100; however this does not appear to be the case.
- The dry contact active state setting high/low do not change the alarm state. From NVR side there is no difference for high/low, but dry contact still works with either.
- For VAPX3 camera, all the video codec parameters are embedded on its RTSP URL. Therefore, bitrate for AXIS VAPX3 camera does not update on camera web GUI after changed on NVR.
- Quality for AXIS camera does not update on camera web GUI after changed on NVR.

Note

Please refer to AXIS cameras release notes published on the AXIS website for more information about AXIS cameras and limitations.

Supported Key Functions

- Video Stream
- Query Device
- Audio Stream
- Events
- PTZ

Video Stream

Supports MJPEG and H.264 streams

NVR supports dual H.264, or one H.264 and one MJPEG

Audio Stream

Supports audio codec G.711

Audio stream is mixed with video stream

Dry Contact Event

Supports polling mode at a 250ms interval

Unsupported Key Functions

- Reboot
- Power Off
- Get Log
- Factory Defaults
- Find Device

Default Ports

- Port 80 for HTTP
- Port 554 for RTSP

Default Username & Password

Username: service

Password: <no password required>

Supported Resolutions

Model	Max Resolution (Default Value)	Resolution List in NVR 4.2+
AutoDome JR800 HD	1280x720	1280x720, 4CIF, CIF
Dinion NBN-498-P IVA	4CIF	4CIF, CIF
Dinion HD 1080p D/N IVA	1920x1080	1920x1080, 1280x720, 4CIF, 704x432, 512x288, CIF, 256x144
Dinion NBN-921-P IVA	1280x720	1280x720, 4CIF, CIF
NBC-265-P	1280x720	1280x720, 4CIF, CIF
AutoDome 800 HD	1280x720	1280x720, 4CIF, CIF
VG4 AutoDome	4CIF	4CIF, CIF

Limitations

- Due to a camera limitation, the handler can only support one MJPEG stream. If a second MJPEG stream is enabled, the NVR will produce an error message.
- Bosch camera supports two H.264 streams. Handler default stream is H.264 stream1. Due to camera limitations, H.264 stream 2 resolution depends on H.264 stream1 resolution.

Note

H.264 stream 1 and stream 2 refer to H.264 streams from the camera corresponding with the camera encoder profile1 and profile 2, not streams 1 and 2 on the NVR.

Resolution List on H.264 Stream 1	Current Value of H.264 Stream 1	Resolution List on H.264 Stream 2	Resolution List on MJPEG Stream
1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	1920x1080	1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144

1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	1280x720	1280x720 4CIF 704x432 512x288 CIF 256x144	1280x720 4CIF 704x432 512x288 CIF 256x144
1920x1080 1280x720 4CIF 704x432 512x288 CIF 256x144	4CIF or below	4CIF 704x432 512x288 CIF 256x144	4CIF 704x432 512x288 CIF 256x144

From the table above, the resolution on both H.264 stream 2 and MJPEG stream must be equal or less than H.264 stream 1. This means, when changing H.264 stream 1 resolution to a smaller one, ensure it is equal to or less than the resolution on both H.264 stream 2 and MJPEG stream.

- Due to a camera limitation, if the user starts MJPEG stream or H.264 stream2 with HD resolution, please make sure H.264 stream 1 resolution is equal to or higher than the resolution on MJPEG stream or H.264 stream 2.
- Bosch has implemented the CGI to get the Camera Type instead of the Model name labeled on the camera. So the Camera Type is shown in the model list on the NVR.
- Bosch cameras do not support changing the Video Standard, only viewing the Standard. Bosch cameras have 3 Video Standards: NTSC, PAL and HD. If the camera video standard is HD, “UNKNOWN” will be displayed on the NVR Camera Image Settings page.
- When setting up Dry Contacts on NBN-921-P IVA serials and NBN-498 serials, it is necessary to activate the Alarm Inputs on the camera GUI first. Users must change the Active dropdown list value from 'None' to 'N.O.' or 'N.C.' on the camera, as 'None' means disabled and this does not automatically change when Dry Contacts are activated on the NVR.
- Due to a camera limitation, for Bosch Dinion HD 1080P D/N IVA, if the users sets stream 1 codec H.264 and 30 FPS, stream 2 codec H.264 then the streams can only reach 10 FPS, due to stream 2 being dependent on stream 1.
- Handler supports Generic functions including dual stream and audio stream with the following limitations:
    - Cameras need to provide three streams, including two H.264 streams and one MJPEG stream. So the handler can support dual H.264 streams or one H.264 stream and one MJPEG stream.
    - Resolution list includes HD resolution (1080P and 720P) and SD resolution (CIF and 4CIF), but cameras may only support one or several of them.
    - Audio codec G711 can be supported by the audio stream, other codecs are not supported.
- It is found that different camera firmware versions can return different camera types. This causes the handler to recognize the camera as Generic camera. Please ensure the Bosch camera has the recommended firmware version before adding it to the NVR.
- Due to camera limitations on the AutoDome Jr 800 HD, it supports single H.264 stream when the resolution is set to 1080P or 720P 50 (PAL)/60 (NTSC) FPS on H.264 stream 1, and H.264 stream 2 is only a copy of H.264 stream 1 when 1080P is selected for stream 1. It supports dual H.264 streams when resolution and FPS are set to 720P and 25 (PAL)/30 (NTSC) FPS or below, and H.264 stream 2 can be set to 4CIF and CIF resolution.

- Due to camera limitation, when setting 1080P for MJPEG stream on the Autodome Jr 800HD, it is shows 1920x1072.

Known Issues

- The FPS is only 2.75 when MJPEG streaming (25 fps) is in use. It is a known camera limitation. Confirmed with Bosch support that for most of the Bosch cameras FPS can only reach up to 5 FPS.
- Audio and video is not synchronized with MJPEG stream on victor client. This is due to the MJPEG stream limitation on the FPS only reaching a low rate.
- When setting Brightness and Contrast on the NBC-265-P, it returns an error message. This is because it uses different CGI from other cameras, so these properties and functions are not supported.
- Frequent Video Loss for Bosch Dinion HD 1080p D/N IVA is caused by the default NVR storage setting. The recommended mount option when setting up the NVR is: *nofail,noatime,nodiratime,attr2,nobarrier,noquota,allocsize=4M*
- GOP structure should be set to “IP” prior to adding cameras to NVR. Failure to configure this setting may cause videoloss or issues with victor playback.
-
- If the network connection between the NVR and the camera drops and then established again, this may result in the camera/device not restarting correctly. The camera should be restarted
- Due to an NVR web client known Issue, when Stream 2 is enabled with the same codec as Stream 1, the setting is a copy of the Stream 1 settings. But Bosch dual H.264 stream support has a different resolution list. So when the client applies, it shows and applies a different resolution value on Stream 2.
- Due to the NVR web client known issue, when setting the resolution for the second H.264 stream, set it on the advance edit page. This is due to the fact it is a copy setting of H.264 stream 1 on camera list page with editing status, and real available resolution may not be included in the copy of the resolution list.
- Due to camera known issue, for Dinion HD 1080P D/N IVA camera, set resolution 4CIF (704x480) on H.264 Stream 1 and 768x432 on H.264 Stream 2, then the user only can get an actual resolution 704x432 for H.264 Stream 1. And set resolution 768x432 on H.264 Stream 1 and 4CIF (704x480) on H.264 Stream 2, user can only get actual resolution of 704x432 for H.264 Stream 1.
- There is a green line at top of victor Unified Client live stream on Bosch AutoDome Jr 800HD. This is a camera issue.
- Playback video stuttering when rewinding/forwarding the H.264 video from AutoDome 800 Jr. The camera setting is: NTSC, H.264, 1920x1080, FPS=30. Camera's firmware version is 39500570.

Special Points

- Bosch camera has 8 profile configurations on the web page, and each profile may configure a set of codec parameters. Handler specifies H.264 Stream 1 on camera to profile Configure 1 and H.264 Stream 2 on camera to profile Configure 2 and the MJPEG stream on camera to profile Configure 3, so when the NVR sets stream codec parameters, the parameter is written in the special profile configured.

- Changes to codec parameters should only be made on the NVR web GUI and not the camera web page as they may not be implemented.
- The ranges of Brightness and Contrast are 0-255 in Bosch cameras. The Handler converts this value to 0-100 using the following formulae:

  Camera to NVR: *Camera(brightness/contrast)*100/255*
  NVR to camera: *NVR(brightness/contrast)*255/100*
- When adding the camera to the NVR, the GOP structure must be set to "IP" in profile configure of the camera web page, so the FPS value is usable.
- The default GOP value is 15, however if the stream is restarted, the default value will be set. If the user requires to change the GOP value, they can change it on the camera Web Gui, however only after the stream on the NVR has restarted.
- When enabling audio stream on NVR for all Bosch cameras, ensure audio is enabled on camera web GUI.

CBC

Supported Key Functions

- Video Streaming – Single and Dual
- MJPEG and H.264 video codecs
- Query Device

Unsupported Key Functions

- PTZ Operation
- Audio Streaming
- Dry Contact Events
- Power off devices
- Get device log
- Find Devices
- Reboot
- Reset to factory default

Camera Serial Number

NVR will use the cameras MAC address as the camera serial number.

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: <no password required>

Supported Resolution

Model	Max Resolution	Resolution Options on NVR
MP1A	1280x1024	1280x1024 / 640x512
MP1DN	1280x1024	1280x1024 / 640x512
MP2A	1600x1200	1600x1200 / 800x600
MP2DN	1600x1200	1600x1200 / 800x600
MP3DN	2048x1536	2048x1536 / 1024x768 (For MJPEG – only 1024x768)
MP5A	2560x1920	2560x1920 / 1280x960
MP5DN	2560x1920	2560x1920 / 1280x960 (For MJPEG – only 1280x960)
MP8D-L4	1600x1200	1600x1200 / 800x600

Limitations

Note

Refer to Limitations stated for Arecont Vision as they also apply for CBC products.

- Due to a NVR limitation, motion detection only handles resolutions of up to 1280x960 for AV1XXX, AV8XXX, AV2100, AV2105 and AV2110, motion detection can only handle resolution as half.
- Due to a camera limitation, for CBC cameras all MJPEG only cameras (Arecont: AVxx00, AV8180, AV8360 – CBC: MP1A, MP2A, MP5A and MP8D-L4) will stream at a higher FPS (reaching max FPS) when setting to 15FPS. FPS of 14 and lower are not affected by this issue.
- When upgrading to latest camera handler pack, note that the parameters of video streams may be changed to the default values. It is recommended to recheck video codec parameters when upgrading or restoring configuration backups.

Known Issues

Note

Refer to Known Issues stated for Arecont Vision as they also apply for CBC products.

- Live view and playback streaming (instant playback) on the NVR does not "pace" delivery of large amounts of data well, causing overflows in network buffers at the VEclient. This issue is more noticeable when using higher bitrate cameras and will cause skipping in live video and playback on the VEclient. For video retrieval on higher bitrate cameras it is advisable to search and retrieve the clip, this will display the recorded video without this issue.
- NVR receiving H.264 with timestamp prior to last one received. This is a firmware issue. Beta firmware has been received from Arecont and resolved the issue, awaiting formal release (Arecont Ticket: TECHSUP: 15516).

Special Points

CBC model cameras with firmware version 62414 will be configured as their Arecont equivalent, also taking the Arecont model. In firmware 64238 CBC model cameras will be identified as a CBC model, but for codec parameters. CBC model cameras still correspond with Arecont model cameras.

Supported Key Functions

- Video Streaming – Single and Dual
- PTZ – Applies to cameras that have mechanical Pan and Tilt and Optical Zoom.
- Query Device
- Reboot Device

Unsupported Key Functions

- Find devices
- Power-off device
- Get device log
- Reset to factory default
- Digital PTZ – Applies to cameras that support digital PTZ.
- Audio Streaming

Camera Serial Number

NVR will get the serial number from each camera.

Required Ports

- Port 8080 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username:admin
- Password:indigo

Firmware Requirements

Nexus Server **F, D & PT-Series'**	Nexus server must be updated to v2.5.9.17 or later. **Note:** v2.5.9.17 is in beta
F, D & PT-Series'	FLIR Camera Firmware must be v2.5.9.15 or later.

Video Stream Feature

Specific video stream feature characteristics are:

PT-Series, F-Series & D-Series: MJPEG, MPEG4 and H.264. Support dual video streams.

Limitations

Model	Known Camera Limitations
D-Series PT-Series	Due to a camera issue FLIR PTZ cameras will stop streaming occasionally after a user attempts to either set or play Presets and Sequences on victor. If this happens, the camera will stop responding to any PTZ commands via victor and no video appears on victor/NVR for approximately a minute. A workaround is to re-try the command after video returns. Occasionally video does not return, in this case the user must reboot the camera from the camera web GUI.
F-Series D-Series PT-Series	Due to a necessity of FLIR camera video hardware re-start, it may take about 48 seconds for the video stream to come back after any stream property changes.
F-Series D-Series PT-Series	Camera may take more than 5s to respond to a CGI command, this may cause NVR to timeout. This is camera performance issue.
F-Series D-Series PT-Series	User can only view camera's video standard format setting (NTSC or PAL) on NVR. We do not recommend the Video Standard be changed from the default. This is due to the requiring FLIR camera hardware change. The effect of changing the Video Standard are: Incorrect Image Resolution and FPS will be displayed on Camera WebGUI, NVR and victor Client.
F-Series D-Series PT-Series	NVR requires a response from cameras within 5 seconds. As a result, changing resolution on the NVR may result an error message. If the change is made again on the NVR it will work. The error message is not always received.
F-Series D-Series PT-Series	MJPEG Live video Pixilated is caused by a low Q set by default on the camera (Q=25). Once this value is set to 75 the Pixilation disappears. The problem only applies to MJPEG.
F-Series D-Series PT-Series	After changing video channel resolution, frame rate and/or video codec type on a stream, video stream will become unavailable for about 45 seconds. This is because changing video channel configuration parameters (Bitrate, Frame rate, Resolution and Video Codec Type) requires reset of camera's video hardware.
F-Series D-Series PT-Series	User is able to add camera to NVR using wrong password from password group. This is because FLIR camera doesn't require authentication.
F-Series D-Series PT-Series	Video freeze may occur when changing heat distributions or many moving objects are detected by camera. Wireshark traces shown that the camera under test stops transmitting UDP/RTP packets for a short period of time.
D-Series PT-Series	Camera zoom in and zoom out does not work on Victor Client. This is because Victor Client uses "Continuous Zoom" method to implement zoom in and zoom out and FLIR cameras have no CGI support for continuous zoom.
D-Series PT-Series	Preset cannot be used to set Zoom In and Zoom Out. PTScanListPointCurrentValuesSet is used to save a preset position. This CGI does not save the zoom setting into the preset position.
D-Series PT-Series F-Series	The video source format of FLIR cameras is pre-configured at the factory. Switching the video source format through FLIR web or Nexus interface will not take effect until the required FLIR camera hardware components are installed. Customers must contact FLIR to obtain the required hardware components and follow their installation procedure.

Known Issues

Model	Known Issues
F-Series	Due to VE-API limitation, ZOOM only camera will not be supported as PTZ camera. Therefore, ZOOM feature of F-Series will not be supported.

F-Series D-Series PT-Series	Communication channel between NVR client and camera server through port 8080 becomes unavailable occasionally. If HTTP connections through port 8080 cannot be established, FLIR camera sever will not be able to respond to CGI commands sent by NVR client. When this happens, user must try to re-establish the HTTP connection through port 8080. Table 1 lists steps for trouble shooting HTTP connection between NVR client and FLIR camera server (Nexus Server).
D-Series	D-Series camera returns incorrect firmware version number in the IRDeviceVersionGet CGI response. Camera firmware version number is only available on the main page of the camera's web configuration tool. The camera firmware version number displayed on NVR is incorrect.
F-Series	Video image streamed from a F-Series camera always has a big border when being displayed on NVR and Victor Client.
F-Series D-Series PT-Series	Video image of moving objects looks interlaced on Quick Time and Java Applet Web Browser. The interlacing may only have minimal effect on the Victor Client with no noticeable effect to the Victor Client image. The interlacing will noticeably affect the Image displayed on the NVR Live View and Java Applet on the Alarms page.

Setup

Step	Setting up a new camera
1	Models: PT-Series/D-Series/F-Series Reset the camera to manufacturing default Open Camera Web Browser Select Configuration File Go to Factory Backup & Recovery Window Select Restore to restore camera to "factory defaults"
2	Models: PT-Series/D-Series/F-Series Adding CGI Interface The FLIR camera's CGI Interface must be enabled through Camera Web Configuration Tool. This step must be performed before setting up a FLIR camera's IP address on NVR. Steps for enabling the "Nexus CGI Interface" Open Camera Web Browser: Select "communications" Select "Network Remote /VMS" On Interface Configuration Page Select "Nexus CGI Interface". Select "Add" Click Create. Click Save. Stop Server Start Server. Note on port number for Nexus Interface: Port 8080 is the designated port for communication between NVR and FLIR camera server (Nexus Server). Port is automatically set to "8080" by default

3	Models: PT-Series/D-Series/F-Series Steps for enabling the Second stream on the PT-Series/D-Series Before setting a FLIR camera's IP address on NVR, the user must enable the second stream for each camera LEN on the PT-Series/D-Series/F-Series. Steps for enabling the second stream on each camera for PT-Series/D-Series: Open Camera Web Browser On FLIR Systems Nexus Configuration Page: Select "Modules" Select "Video" On VIDEO Configuration Page Select Device ID #1 , Select Enabled=yes Select "Save" Select Device ID #3, Select Enabled=yes Select "Save" Stop Nexus Server Start Nexus Server Steps for enabling the second stream for F-Series: Open Camera Web Browser On FLIR Systems Nexus Configuration Page: Select "Modules" Select "Video" On VIDEO Configuration Page Select Device ID #1 , Select Enabled=yes Select "Save" Stop Nexus Server Start Nexus Server
4	This steps are required only if incorrect camera model name is displayed on NVR. Use the following steps to change the model: Go to " ip>/.serial". Change model name (i.e. F-324) This field is shown as the "Name:" in the IRDeviceVersionGet CGI response.

5	The following describes the steps for installing a dictionary file to a FLIR camera. **Note**: In order for a FLIR camera to properly respond to all the CGIs, the camera must be installed with the correct dictionary file version specified in this release note. **1** Open Internet Explorer. Go to http://<camera ip> **2** Select "Server Status" **3** In the "Nexus dictionary file" Window **a** Select "Browse" **b** Enter the path of the folder which contains the correct Nexus dictionary file to be uploaded. **c** Select "Upload" **4** Use the following two steps to re-start Nexus Server **a** 4.Select "Stop" **b** 5.Select "Start"
6	The following describes the steps for Installing a Nexus Server file to a FLIR camera. **Note**: In order for the camera to properly respond to all the CGIs, all FLIR camera must installed with the correct Nexus Server file specified in this release notes. **1** Open Internet Explorer. Go to http://<camera ip> **2** Select "Server Status" **3** Select “Stop” **4** In the "Nexus Server Upload and Download" Window: **a** Select "Browse" **b** Enter the path of the folder which contains the correct Nexus Server file to be uploaded. **c** Select "Upload" **d** Wait until the upload is completed. It usually takes at least 7 minutes for the upload to be completed. **5** Use the following two steps to re-start Nexus Server **a** Select "Start"

Troubleshooting

Error Message on NVR	Possible root causes	Trouble shooting steps
NVR Failed to add camera. No values returned. The specified device is not recognized. Verify IP address and camera type”	-NVR Lost communication with Camera - Camera is offline - Camera server is not running	Ping camera IP to make sure camera is connected network. Open a web browser. Issue “ServerWhoAmI” CGI command, “ SERVERWhoAmI” If camera responds the above CGI with no error, this means communication between NVR and Camera communication through port 8080 has been established. ServerWhoAmI CGI command response format is as follow: Camera’s response: { "SERVERWhoAmI": { "Return Code" : 0, "Return String" : "No Error", "Id" : <session ID> "Owner" : <owner ID>, "ip" : "<NVR Client IP>" } } If camera fails to respond to the “SERVERWhoAmI” CGI command, Open FLIR camera web configurator. Select “communication” Select “Remote Network / VMS” On Interface Configuration page Verify if Nexus CGI Interface has been added. Verify if port 8080 is used for the Nexus CGI Interface. Make sure Nexus CGI Interface is the only interface using Port 8080. Click Create button, Click Save. Use the following steps to restart camera server (Nexus Server) -Select “Stop” to stop Nexus Server -Select “Start” to restart Nexus Server

Known Issues related to Camera failed to respond to a “SERVERWhoAmI” CGI	Possible causes	Recommended Workaround
NVR returned “Device Error” when trying to change image resolution setting.	Camera failed to respond to a CGI on a timely manner. NVR Time out occurred.	Re-try the command
Change video channel configuration parameters (for example: Resolution) on NVR results an error.	Camera denied remote control request.	If problem persisted, follow the follow steps to re-gain remote control of the camera. Reset camera to manufacturing settings. Re-add CGI Interface. For PT-Series/D-Series, Re-enable second streams (ch1 and ch3) on each camera. For F-Series, re-enable second stream (video ch1) on camera.

ONVIF

The ONVIF Camera Handler will allow the NVR to be compliant with the standardization initiative for IP-based video cameras defined by ONVIF Profile S Specifications [1]. ONVIF Profile S Support Status Table Illustrates the level of compliance currently supported by the ONVIF handler.

By complying with these standards, the NVR should be able to communicate and interact with the majority of ONVIF Profile Scompliant IP-based cameras.

It should be stressed that each camera must be preconfigured before being added to the NVR.

The configuration will be on a camera to camera basis, with the minimal configuration consisting of an IP address and username/password ranging up to various different settings (eg dry contact settings) which may require a camera unit reboot in order for the new settings to take effect.

Once the ONVIF camera is added to the NVR the Comms field will be populated with 'ONVIF'. If there is a native handler for the camera this will be populated with 'Native API'

The appendix outlines the specific configuration steps required for one particular camera i.e. the HikVision Speedome camera.

ONVIF Profile 2.2 S

The ONVIF 2.2 Profile S standard consists of a number of mandatory and optional features regarding video and audio streaming, multicast, PTZ and event/metadata support.

The mandatory features are further subdivided into two areas:

a Profile Mandatory Features - these are guaranteed to be supported between a device and client that are both conforming to the profile.

b Profile Conditional Features - these shall be implemented if the device or client supports the feature.

All of a) and a large subset of b) are supported by the NVR ONVIF handler.

None of the optional features are supported by the NVR ONVIF handler.

ONVIF Profile S Support Status table, below, highlights the complete list of mandatory features a) and b) together with the NVR handler support status.

		Supported by ONVIF Handler?
Video Streaming		
7.1.3	Shall be able to retrieve media profiles using the GetProfiles()	Yes
7.1.3	Shall be able to get the stream Uniform Resource Identifier (URI) for the selected profile using GetStreamURI()	Yes
7.1.3 - 7.2, 8.1, 8.2	Shall allow streaming H.264, MJPEG, MPEG4 where the device supports these codecs (Includes getting and setting resolutions/frame rates/bitrate settings)	Yes
Audio Streaming		
8.9, 8.10, 8.11	Shall allow streaming G711, G726, AAC where the device supports these codecs	Yes
Multicast Video Streaming		
8.12	Shall be able to control multicast video streaming using the StartMultiCastStreaming() and StopMultiCastStreaming() operations	No
8.12	Shall be able to receive a multicast stream sent by a device	No
User Authentication		
7.4.1	Shall implement WS-Username token according to WS-Security in the core specification	Yes
7.4.2	Shall implement HTTP Digest as covered in the core specification	Yes
PTZ & Lens Properties		
8.4 Absolute Positioning	Moving a PTZ device to an absolute position (if supported)	Yes
8.5 Relative Positioning	Moving a PTZ device to a relative position (if supported)	Yes
8.6 PTZ - Presets	Listing of presets (if supported), Moving a PTZ device to a preset	Yes
	Patterns (however sequences are supported)	No
	Lens Properties (if supported) • Focus • Auto Focus • Iris • Auto Iris • Day Night Mode • Wide Dynamic Range	Yes
Dry Contacts (Digital Inputs)		

		Supported by ONVIF Handler?
8.5.3	Dry Contacts • Enable/Disable (Should normally be preconfigured on the camera) • CreatePullPointSubscription() • PullMessage() • Renew() • Unsubscribe()	Yes
Relay Outputs		
8.13.2	Relay Outputs • GetRelayOutputs() • SetRelayOutputSettings() • SetRelayOutputState()	No
NTP		
8.14	Synchronisation of time using NTP devices	No
Dynamic DN		
8.15	Configuration of Dynamic DNS	No
Zero Configuration		
8.16	Configuration of Zero Config	No
IP Address Filtering		
8.17	Configuration of IP Address Filters	No
Device Discovery		
9.1	WS-Discovery as covered by the core specification (ONVIF cameras are discovered using NVR auto-discovery	No
Network Configuration		
9.2	If supported: • Get/Set Network Default Gateway • Get/Set Network Protocols	No
Device Requirements		
9.33	Get Device Information e.g. manufacturer, model and firmware version	Yes
Client Requirements		
9.33	If supported: Create, list, modify and delete users from the camera (username and password should be preconfigured on the camera by the user)	No

Supported Key Functions

- Video Streaming - Single and Dual
    - Video Codec - MJPEG, MPEG4 and H.264 (where supported)
- Audio Streaming
    - Audio Codec - AAC, G711 and G726 (where supported)
- PTZ - applies to cameras with mechanical pan, tilt and optical zoom
- Dry contact events
- Username Authentication

Audio/Video Stream Feature

- Changing the stream settings such as codec, resolution, FPS or quality of a selected video stream may require up to 5 seconds of time delay to re-establish the video stream.
- Video quality settings for MJPEG can differ across manufacturers

Default Username & Password

- Username: admin
- Password: ADMIN

Note

The user must pre-configure the camera with an ‘admin’ user account

Configuring a Camera for ONVIF Communication

Steps needed to take to add a camera to the NVR:

1. Access the camera and assign a desired IP address
2. If enabled, disable the RTSP authentication
    a. This is different from the username authentication
3. Verify the username/password group of the camera is admin/admin
    a. For the Illustra cameras, default username and passwords are acceptable for the handler communication
    b. Other vendor cameras will need an administrator account created or modified through the cameras web interface
4. Verify video streaming consists only of video, or Video and Audio to also enable audio (not video + audio multiplexed together)
5. Reboot the camera for settings to take effect
6. Add the camera to the NVR

Limitations

The ONVIF standard can be interpreted in slightly different ways by the various manufacturers who provide ONVIF enabled IP Cameras. The NVR ONVIF handler has been written to accommodate these differences but it's been necessary to devise a number of configuration guidelines to aid with supporting an ONVIF enabled camera.

Camera Feature	Pre-Configure Camera Settings
IP Address	User must pre-configure an IP address
Username	NVR attempts communication using a suitable native handler, followed by ONVIF handler User must pre-configure the "admin" user account and add their new password to the NVR password group before adding the camera to the NVR
Multiplexed Video/Audio	User should ensure the audio (if supported) is available as a separate stream and not multiplexed with the video
Dual Streaming	For Dual streaming the user should pre-configure the camera to determine the codecs/frame rates and resolutions the primary and secondary streams are capable of providing. Some cameras may require a unit reboot to take effect of new settings
Dry Contacts	Normally these must be enabled (if supported) via the camera's web page and may entail a unit reboot
Auto Iris/Focus	If a camera supports the Iris and/or Focus features then these settings can be either set to auto or manually adjusted within Victor GUI. However, disabling the auto feature is only supported in the NVR web GUI. Therefore, if the user is manually adjusting these settings then the auto Iris and/or Focus settings in the NVR GUI image settings page must be disabled.
Known Camera Limitations	
Bosch (Audodome Easy II)	H264 fails to stream - known gstreamer issue (http://comments.gmane.org/gmane.comp.video.gstreamer.devel/41937) Bosch send H264 video using a Payload Type Number = 35 but gstreamer H264 depayloader only accepts payload type number video in the dynamic range (96-127)(Streams MJPEG OK) Recommendation - Use the Bosch native handler
HikVision	Some settings need pre-configured and a camera reboot to take effect (Codec change, Dry contact alerts)
HikVision	Motion Detection (where supported) should NOT be enabled directly on the camera. Motion Detection can be enabled via the web NVR GUI for the camera

Camera Feature	Pre-Configure Camera Settings
HikVision	Dry Contacts and Presets - zero or one based issue. Some ONVIF camera manufacturers have different offsets for dry contacts, presets etc. Some use zero-based indexing, while others are one-based. The NVR allows the user to fine tune the appropriate numbering offset on a per camera basis.
CBC	Unable to add CBC cameras via the ONVIF handler to the NVR. Initial investigation appears to point to a timing issue, taking too long to respond (>5 secs) to onvif queries and timing out. Recommendation - Use the generic CBC native handler

1 When the user adds a camera to the NVR the latter will first attempt to use a native handler to establish communications. Failing this it will revert to the ONVIF handler (if this also fails the user will be unable to add the camera)

a If the user has incorrectly typed in the password or assigned an incorrect password group the native handler communications will fail even if there is a suitable native handler available. In this case it's possible that the ONVIF handler will be employed (assuming ONVIF authentication is disabled). If there is a native handler available then this is probably not what the user wanted ie the native handlers are normally more feature rich.

2 Each NVR native camera handler maintains the camera's user account name (username) eg for brand XYZ the username could be “root123” - the user then only has to specify a password via the NVR web GUI. Given the range of different manufacturers providing ONVIF cameras it's not possible to identify a common username. Therefore the NVR ONVIF handler requires the user to create a common user account on each ONVIF camera. The common username and password for the NVR handler is defined within the handler as admin/ADMIN respectively.
The user should create (or update) a user account directly on the camera with username = admin and the password can be anything they choose. They should then create a new password group via the NVR GUI and use this group when adding the camera to the NVR.The admin user account should optimally be configured with full admin rights in order to access the full range of ONVIF functionality (where supported).

3 Some cameras support a maximum of 2x ONVIF VideoEncoderConfiguration profiles (VEC) e.g. HikVision's Speeddome and bullet cameras. In general each VEC can be modified, assigned or removed from an ONVIF media profile: however, ONVIF does not support the creation of VEC entities, which means (for these cameras) there can only be at most 2 distinct media streams served out by the camera.
For example, if the camera supported 6x concurrent streams then up to 6 clients could receive video but there would be at most 2 distinct media codecs/resolutions/frame rates etc.

4 Frame Rates - The HikVision camera models investigated here have a limitation with regard to their advertised frame rates. The frame rates available through the camera web page range from 1/16, 1/8, ¼, ½, 1, 2, 4, 6, 8, 10, 12, 15, 16, 18, 20, 22, 25 FPS. The frame rate available through the ONVIF protocol comes in the range min - max eg 1 - 25 FPS. If the user attempts to configure an invalid FPS e.g. 7 the HikVision will accept the next lowest value (6 FPS) but the web GUI will display 7 FPS.

5 The ONVIF Handler does not support patterns. It does however support presets.

6 Resolutions - The HikVision camera models also display a limitation with regard to their advertised resolutions. The cameras maintain two media profiles, the primary profile and a

substream secondary profile. For the H264 codec the primary profile can support the larger resolutions "1280x720" and "1280X960" only, whilst the secondary profile can support "704x576", "352x288" and "176x144".
An ONVIF query to determine the range of resolutions for the H264 codec will return the full list of resolutions. When the user attempts (via the NVR web GUI) to configure a second H264 dual stream they will be presented with the full list of resolutions but in practice the second stream can only support the 3 lower resolutions values. If the camera rejects an illegal resolution the NVR will roll back the resolution to the previous value (if configured previously)
The user should refer to the camera's web page to accurately determine the appropriate res7)

7 Codecs - Another limitation with the HikVision camera concerns the codec. The HK bullet camera has two VideoEncoderConfigurations (VEC). The main VEC is hardcoded to H264 and cannot be modified. The substream VEC can support either H264 or MJPEG but the user has to modify the VEC via its web page to the desired codec and reboot the camera unit in order to effect the changes. This has serious implications for the ONVIF handler. The user could choose to modify the codec type through the NVR web GUI and the change would be successfully propagated to the camera - there is no provision within ONVIF to determine if a configuration change on the camera should be followed up with a unit reboot. The net result is the user is unable to configure the codec via the NVR web GUI for these type of cameras but there will be no warning or error message.
The recommendation is for the user to pre-configure the camera via its web page (where possible) and allow the NVR web GUI to automatically provision the second stream (eg during the setup of motion detection alarms)
Note that Bosch cameras return a Payload Type Number=35 for codec=H264. The gstreamer pipeline within the ONVIF handler cannot support this (assumes H264 codecs will belong in the dynamic range[4] 96-127). The pipeline could be modified with the addition of a caps setter element to modify the PT on the fly but this would be a limited workaround. The Bosch camera will however stream MJPEG correctly to the ONVIF handler.

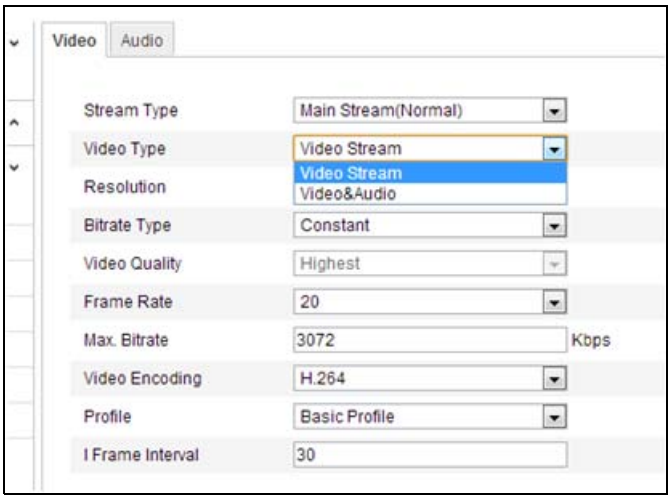
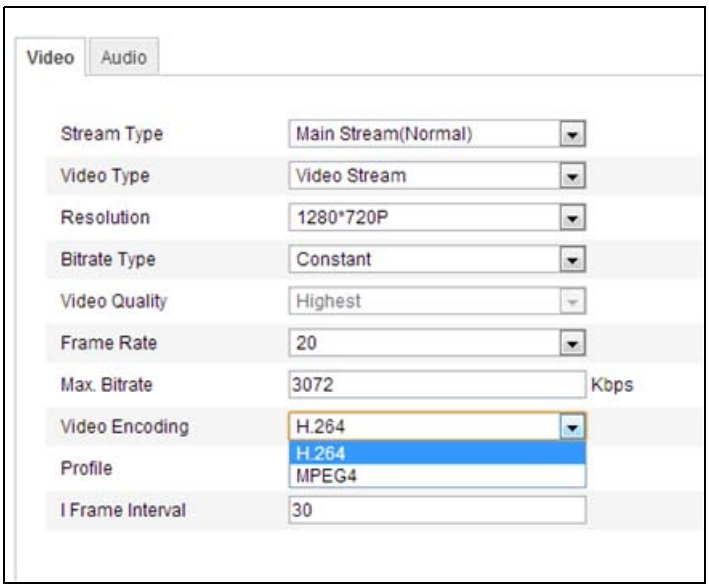
8 Dry Contacts/Digital Inputs -These must normally be enabled via the camera's web page and the unit rebooted in order to take effect (see appendix)

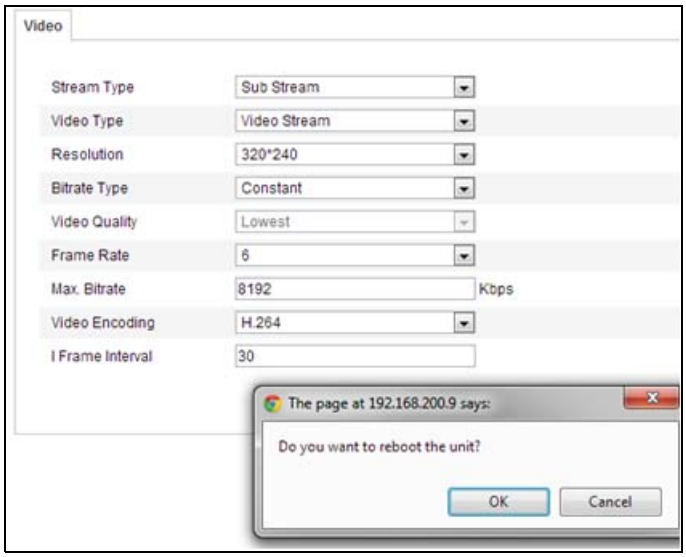
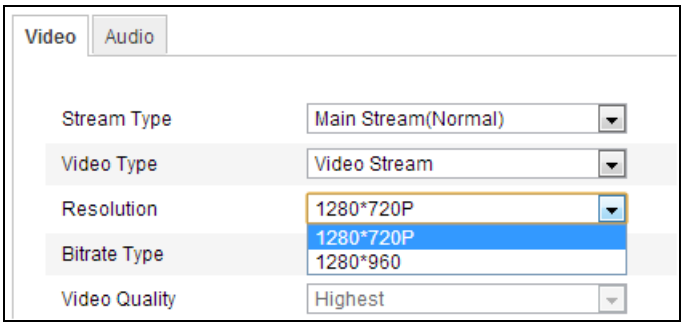
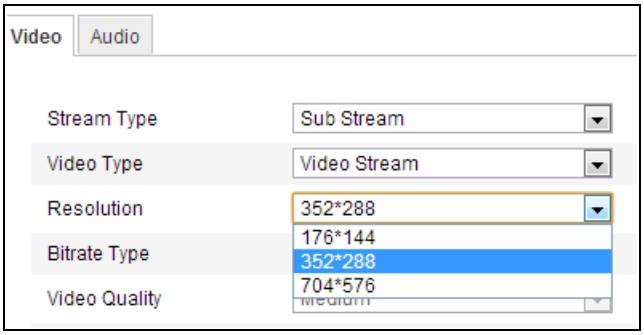
9 Depending on the camera manufacturer, the event ID (which controls preset and dry contract) may either be 0 based (event count starts with 0) or 1 based (count starts with 1). Our handler is unable to identify which offset the camera is using. We always assume that the camera uses 1 based offset for Dry contacts. As a result, for any cameras that are 0 based event ID, when activating Dry Contact 1, it will actually appear as Dry Contact 2 on victor client

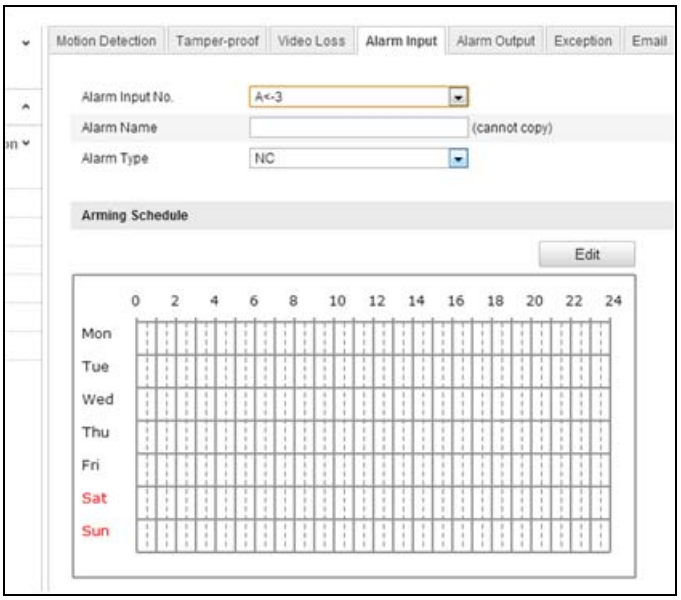
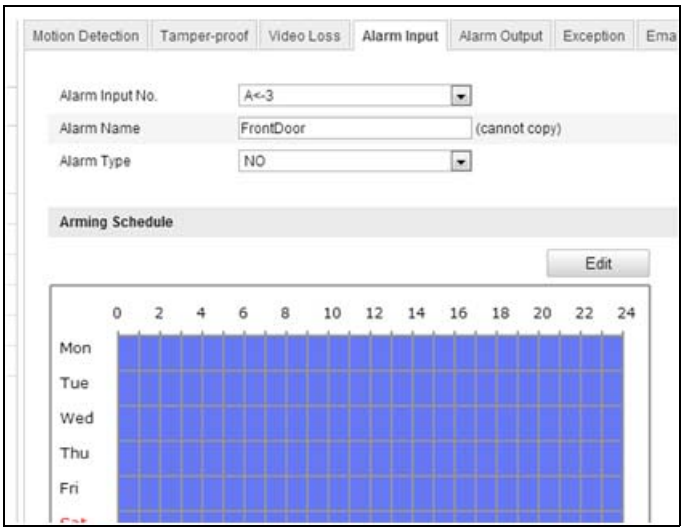
10 We always assume that the camera uses 0 based offset for Presets. As a result, for any cameras that are 1 based event ID, when activating Preset 1, it will actually appear as Preset 2 on victor client.

Appendix

This section outlines specific configuration steps required for one particular camera, the HikVision SpeedDome (v5.0.0 build 130518)

Camera Feature	Pre-Configure Camera Settings
Video Streaming By default the video stream is multiplexed with audio - this must be set to Video only	
Codecs Primary stream advertises support for H264 and MPEG4 but in practice only seems to support H264	

Camera Feature	Pre-Configure Camera Settings
Secondary stream codec change requires a unit reboot	
Resolution For H264 codec: Primary stream supports 2 largest resolutions Secondary stream supports 3 smallest resolutions An ONVIF request for resolution list for H264 will return all the resolutions. The user should be aware that the primary stream can only support the 2 large largest resolutions and secondary stream only supports 3 smallest resolutions	 

Camera Feature	Pre-Configure Camera Settings
RTSP Authentication Must disable RTSP authentication Note: this doesn't affect the WS-Username authentication	
Dry Contacts Must configure the dry contact: 1)State = NC (Normally Closed) or NO (Normally Opened) 2)Configure the times when the sensor is active 3)Reboot the unit to take effect	 

Known Issues

- ONVIF Handler: Local Client Dry Contacts not being triggered when state is set at high

- VENVR ONVIF Handler: Hikvision Bullet - NVR GUI must be refreshed for the camera to be recognized as ONVIF

Panasonic Corp

Supported Key Functions

- Audio Streaming – Audio codec supported depending on the camera.
- Video Streaming – Single and Dual (R)
- PTZ – Applies to cameras that have mechanical Pan and Tilt and Optical Zoom.
- Dry Contact Events
- Query Device
- Reboot Device

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: 12345

Supported Camera API & Models

Model	Minimum Camera Firmware Version
GXE500 (Encoder)	1.36
SW559/SF549/SF539/SP509 SW558/SF548/SF538/SP508	1.30
SC386/SC396/SC384/SC385/SW395 SW316/SW316L SP334/SP304/SW314/SW155/SW152 SF332/SF335/SF336/SF342/SF346 SP302/SP305/SP306/SW352/SW355 SP102/SP105/SF135/SF132 ST162/SW172/ST165/SW174W/SW175 NW484/NW502S/NP502	1.66
NW960/NW964/NS950/NS954	1.64E (Discontinued Models)
NP304/NF302/NP244/NF284	1.64 (Discontinued Models)
NS202/NS202A	2.74P0 (Discontinued Models)
Generic Fixed - for all unlisted Panasonic IP Fixed Cameras	N/A

Note

The Panasonic camera handler supports Generic camera for those unlisted models. If one camera is not in the supported list but compatible with the Panasonic CGI interface "External interface specifications of Panasonic WV-Series Network Camera Ver.1.35", it can be supported as a Generic camera.

Camera Serial Number

NVR will use the camera’s MAC address as the camera serial number.

Audio/Video Stream Feature

The specific Video stream feature characteristics by model families are:

Model	Video Stream Feature
GXE500 SF332, SF335, SF336, SF342, SF346, SP302, SP305, SP306, SW352, SW355, NW502S, NP502, SW316, SW316L, SP334, SP304, SW314, SC386, SC396, SC384, SC385, SW395	Dual stream When camera is in H.264 mode, H.264 + H.264 H.264 + MJPEG When camera is in MPEG4 mode, MPEG4 + MPEG4 MPEG4 + MJPEG
SW559, SF549, SF539, SP509, SW558, SF548, SF538, SP508, SW155, SW152, SF135, SF132, ST162, SW172, ST165, SW174W, SW175, SP102, SP105	Dual stream: H.264 + H.264 H.264 + MJPEG
NW484, NW960, NW964, NS950, NS954, NP304, NF302, NP244, NF284, NS202, NS202A	Single stream: MPEG4 or MJPEG

Generic	Single stream: H.264 or MPEG4 or MJPEG (Depends on camera capability)

Note

1. Changing the resolution/bitrate/quality/fps settings of the current codec will restart the codec and will affect all the video streams from this camera.
2. Video quality settings for MJPEG ranges from 0 - 9, while for MPEG4, camera has low, normal and fine. Normalized values in the NVR for the same is 0 - 100, this makes the increment step for MJPEG being 10 and that of MPEG4 being 50.
3. Video quality and bit rate control settings for H.264 must be done via the camera web page.

The specific Audio Stream feature characteristics by model families are:

Model	Audio Stream Feature
GXE500 SW559, SF549, SF539, SP509, SC386, SC396, SW316, W316L,SP334, SP304, SW314, ST162, SW172, ST165, SW174W, SW175, NW502S, NP502, NW960, NW964, NS950,NS954, SF332, SF335, SF336, SF342, SF346, SP302, SP305, SP306, SW352, SW355, NP304, NF302, NP244, NF284, NS202, NS202A, SC384,SC385, SW395	G726
SW558, SF548, SF538, SP508, SW155, SW152, SF135, SF132, NW484, SP102, SP105	No Audio
Generic	Depends on camera capability

Note

The creation/deletion/modification of audio streams does not affect previously created video streams

Event Stream Feature

HTTP Server push functionality available in Panasonic is used to efficiently obtain the dry contact event. The maximum number of dry contact events supported by each camera family:

Model	Max # of Dry Contact Supported
NW484, SF332, SF335, SF336, SF342, SF346, SP302, SP305, SP306, SW352, SW355, NP304, NF302, NS202, NS202A, NP244, NF284, SW316, SW316L, SP334, SP304, SW314, ST162, SW172, ST165, SW174W, SW175,	1
NW502S, NP502, NW960, NW964, NS950, NS954, SC384, SC385, SW395, GXE500, SW559, SF549, SF539, SP509, SW558, SF548, SF538, SP508, SC386, SC396	3
SP102, SP105, SW155, SW152, SF135, SF132	0
Generic	Dynamically acquire from camera

Limitations

Model	Limitations
All	1.The model prefix of every Panasonic camera is irrelevant when it is added to the NVR. For example, a Japanese model "DG-SC385" is expected to have the same characteristics as the world wide model "WV-SC385". 2.Fractional frame rate settings are not supported in the NVR. 3.NVR web GUI allows the Sharpness/Brightness/Saturation (under Image Settings, Video Properties) to be changed. If the value is changed and saved then the new displayed value may slightly differ from the value that was saved. That slight difference is expected behavior. The difference is due to the conversion of a 0 to 100 value to a different range value that is actually stored on the camera. For example, the actual sharpness (or aperture) range on the camera could be 0 to 31 or 0 to 63. 4.A cache mechanism has been used to cache many properties of the camera (The setting under Image Settings). The cache is updated only when the last updating time exceeds 300 seconds or after some camera properties have been changed by NVR client. It's not recommended to modify the camera settings directly on camera web GUI.
NW502S, NP502, SP334, SP304, SW314, SC386, SC396, SC384, SC385, SW395,SW559, SF549, SF539, SP509, SW558, SF548, SF538, SP508, SW155, SW152, SF135, SF132, ST162, SW172, ST165, SW174W, SW175, SW316,SW316L	When Wide Dynamic Range is enabled (under Image Settings, Lens/Sensor properties), these camera models have a defined limitation that Back Light Compensation (under Image Settings, Video Properties) is not available. These camera models will display Back Light Compensation as read only setting "0".
GXE500, SF332, SF335, SF336, SF342, SF346, SP302, SP305, SP306, SW352, SW355, NW502S, NP502, SW316, SW316L, SP334, SP304, SW314, SC386, SC396, SC384, SC385, SW395,SW559, SF549, SF539, SP509, SW558, SF548, SF538, SP508, SW155, SW152, SF135, SF132, ST162, SW172, ST165, SW174W, SW175, SP102, SP105	1.The camera models which can support either H.264 with MJPEG or support MPEG-4 with MJPEG must be switched between those modes using the camera direct web interface. 2.Note that with certain models, an audio stream occurs as part of either an H.264 or MPEG-4 stream, The audio stream will fail if the video-stream format is switched off. It is best to settle on a video encoding format before the camera is added to the NVR. 3.Due to the performance limitation of the multi-codec models which can support MJPEG with either H.264 or MPEG-4, while streaming MJPEG with H.264 or MPEG-4 simultaneously, the camera might not deliver the requested frame rate. Please refer to the Panasonic product catalog for details. 4.To achieve the best available frame rate for MJPEG, the camera web interface must be used to ensure that the H.264(1) and H.264(2) streams are set for transmission off, and similar for cameras in MPEG-4 Video encoding format. For cameras which send audio over a low-bandwidth video stream, such as SW352, SW355, SC384, and SC385, this also requires the audio to be disabled. Even so, due to processing and bandwidth limitations, some camera models may not deliver the maximum listed frame rate when streaming MJPEG at the maximum resolution (especially at a high video-quality level).
SW355	A change in the audio bit-rate can take a long time for a response in the WV-SW355 (and perhaps other models) for unknown reasons. The bit-rate change request can be successful in which case the audio configuration page for the camera will display after 10-12 seconds displaying updated bit rate value. Bit rate changes may not be successful due to various timing constraints. In this case there would be an error message - “Failure to set Bitrate = XX for audio input”. (Whereby XX = 16 or 32) Further error messages: “Device handler internal error” or “No VE Text response after waiting 5000 milliseconds” may display
SC386,SC396, SC384, SC385, SW395, NS202, NS202A, NW960, NW964, NS950, NS954	Some cameras have an Auto-Focus function that can be triggered, such as the SC386, using the Image Settings Lens/Sensor properties web-page. The Auto-Focus check box does not show the current auto-focus status and will always appear as unchecked; the check box can just be used as a button to trigger one time auto focus.
SW559, SF549, SF539, SP509, SC386, SC396, SW316, W316L,SP334, SP304, ST165, SW174W, SW175, NW502S, NP502, SF335, SF336, SF346, SP305, SP306, SW352, SW355, SC384,SC385, SW395, SW558, SF548, SF538, SP508, SW155, SF135, SP105	For some cameras whose highest MJPEG resolution is 1280x960 or higher, when using MJPEG if a high quality setting is used while using the highest resolution, it results in streaming at a very high bit rate. This results in problems with Quick time playing out the stream, as there is limitation of playback of streams with high bit rate. However VLC seems to play it out normally. Solution is to use lower quality settings or enabling the Traffic Smoothing in NVR Dynamic Bandwidth page.
WV-NS950, WV-NF284 and NW964	Due to the camera limitation, the bitrate for these models does not update on camera web gui after changed on NVR.

SF342, NW960, NW964, NS950, NS954	Due to the camera limitation, the quality of MPEG4 can't be changed. Changing of MPEG4 quality from NVR web page will not take effect and the quality value will always be 50.
Generic	Generic camera handler provides video (single stream only), audio and events. No PTZ functions are supported.

Note

Please refer to Panasonic cameras release notes published on the Panasonic website for more information about Panasonic cameras and limitations.

Known Issues

Model	Known Issues
All	For the models that support both of H.264 and MPEG-4 codecs, they can't support these codec simultaneously. The real currently supported codec needs to be explicitly set at the camera. If audio bit rate is modified while streaming live in victor client, live audio may become corrupt; re-adding the camera to the live view pane will fix this issue. If the camera supports PTZ then there will be no relative focus or iris supported
NW484, NW960, NW964, NS950, NS954, NP304, NF302, NP244, NF284, NS202, NS202A	By default, the MPEG-4 capability is turned off programmatically. This will effectively disabled the audio capability, since the Panasonic handler utilizes MPEG-4 stream for audio streaming. MJPEG frame rate can be reduced if customer manually enables the MPEG-4 capability directly through the camera's web interface.
NW502S, NP502	Max frame rate for dual streaming is 15fps for VGA and 10 fps for QVGA. For single video stream, when the resolution is 1.3 mega pixels, the maximum frame rate for H.264 is 30fps. When the resolution is 3 mega pixels, the maximum frame rate for H.264 is 15fps
SF332, SF335, SF336, SW352, SW355, SP302, SP305, SP306, SF342, SF346, SP102, SP105, NP304, NF302, NP244, NF284, SW559, ST162, ST165	These cameras support two aspect ratios 4:3 & 16:9. MPEG-4 is not available when 16:9 is selected When either H.264 or MPEG-4 transmission is set to On, the maximum frame rate for MJPEG is 5fps
NP304, NF302, NP244, NF284	It is not recommended to use audio with these models, due to the camera limitation on the number of RTSP session. Using audio might result in losing live video. At very low frame-rate settings for MPEG-4, i.e. 1fps - 3 fps it has been observed that the actual frame-rate is much lower, between 0.5 fps - 1.5 fps. It is recommended to use higher frame-rate settings in these models.
SC384, SC385, SW395, SC386, SW396	In order to enable all four patterns, user needs to change the pattern setup by camera web GUI, otherwise only part of the patterns can be used.
NP244, NF284, NS202A, NW484, NS954, NW964, NF302, NP304	In MPEG-4 mode, while streaming at more than 2048 Kbps these camera models only support 1 effective stream in RTSP (Documented in "Function list of camera_encoder.pdf" from Panasonic or Section 8.1 in "CGI Common Ref Panasonic_Network_camera ver1.35.pdf"). Any access to camera web GUI while using the camera in NVR might result in an error message "Too many concurrent session" displayed on camera web GUI. This shall result in display of blue screen instead of the actual video. Selection of MJPEG in camera web GUI should restore the video. Because the audio stream is also attached with video stream, the audio may be always inaccessible in this case.
NW960, NW964, NS950, NS954	Due to a Camera limitation, Patterns cannot be cancelled during its set up phase. The "X" button is recommended not to be used in this case and the user should instead use the Stop button. If the user does click on the "X" button, the user should wait till the counter counts down to zero. The user can then add the pattern again using the start and stop buttons Due to camera limitation, the pattern learning process cannot be cancelled and stopped during adding a pattern via Victor client. User can do subsequent pattern operations until the learning process completed.

NW964	It has been rarely observed that the camera may reboot, when creating/editing a preset or pattern operation with Victor client. Due to the camera limitation on its API, the active statuses of the second and third dry contact are not available. They are just showed as "NA" on the NVR web page.
ST162, ST165	In Victor client, if user does a quick nudge of the pan/tilt button, the pan/tilt will keep on moving until it reaches its axis limited During PTZ control on the ST165 the motor will cause a lot of noise via the internal mic, The audio output will be muted automatically by the camera at that time. User can either use the external mic and/or disable this muting feature via camera web page. Refer to the camera operation manual for the details.
SF132, ST152, SC385	It has been rarely observed that there may be 5 seconds of video loss on the MJPEG stream of these cameras due to the camera firmware issue.
SF132	Due to the camera limitation, the Back Light Compensation setting will automatically become 0 after changing the Wide Dynamic Range.
SW314	In rare cases SW314 PTZ details page on NVR web GUI may wrongly display the "Enable PTZ" button. After refreshing the page, the button will disappear.
GXE500	This camera will only support one stream configuration for these codec across all streams. It means that changing the stream configuration of any one channel will affect all channels. If the dual stream of H.264 or MPEG4 is enabled, changing one stream configuration will affect another. This encoder will only support a single audio stream which out handler will associate with the first channel. Due to performance limitation, Panasonic limits the stream by number and bandwidth, to avoid stream loss it is recommended to lower the codec bitrate on the camera GUI Though the encoder supports 256 presets, only 255 presets can be set by Victor client this is a victor client issue to do with the video overlay. Due to the slow response from the camera, the active status of some of the dry contacts will appear as "NA" on the NVR web page. If the web page is refreshed then the normal status will show. Encoder firmware v1.36 does not support Pelco-P protocol. Therefore it is recommended to upgrade to encoder firmware v1.40 which support Pelco-P protocol. The default Pan/Tilt speed Panasonic provided in the Pelco-D protocol file for GXE500 is relatively slow. It is recommended to change the speed in the protocol file before uploading the file into Encoder. Please refer to the Panasonic GXE500 Installation Guide for details.
SF342 NW960 NW964 NS950 NS954	Due to the camera limitation, the quality of MPEG4 is always ‘Normal’ and can’t be changed. So changing of MPEG4 quality from NVR web page will not take effect and the quality value will always be 50.

Special Points

- The handler will ignore the model prefix of every camera. So for example, "WV-SC385" and "DG-SC385" will be regarded as the same camera with same features. Currently four prefixes have been seen for Panasonic cameras, they are WV/DG/WJ/BB.
- It is recommended when the camera is added to the NVR, not to change any property parameters on the camera web GUI (unless specified on the release notes)
- When a camera is added, the default video codec will be H.264 if it is supported by the camera and selected as the Video encoding format on the camera-direct web-page. If not, then MJPEG will be used to establish the first video stream. If not, MPEG-4 will be used if it is available.
- For the cameras that support pattern, the supported pattern count is based on configuration of the camera which might be 1, 2 or 4.
- For those cameras that support image white-balance, the option supports 3 settings, namely

- “1” - Automatic white balance control mode. (AWC)
- “2” - Automatic tracing white balance mode.(ATW1)
- “3” - Automatic tracing white balance mode under a sodium lamp.(ATW2)

- Some Video Properties like Brightness/Saturation/Sharpness are normalized to percentage (0-100), but the real value in camera is range from nCameraMin to nCameraMax which result in the values in NVR not covering all values in Camera.

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Samsung

Supported Key Functions

- Video Stream
- Audio Stream
- PTZ
- Query Device
- Dry Contact Events

Video Stream

Supports MPEG4, MJPEG and H.264 streams

(Only viable dual streaming is a combination of MPEG4 + MJPEG, H.264 + MJPEG, or H.264 + MPEG4 refer to Limitations for further details)

Audio Stream

Supports G711mulaw stream

Audio stream is mixed with video stream

Dry Contact Event

Count varies from camera models

Uses HTTP Server Push mode at 1s interval

Unsupported Key Functions

- Power Off
- Get Log
- Factory Defaults
- Find Device
- Reboot

Default Ports

- Port 80 for HTTP
- Port 554 for RTSP

Default Username & Password

Username: admin

Password: 4321

Limitations

- Interface '*CameraName*' is not supported as the camera has no CGI command for this interface.
- Video standard change is not supported. The SND 3080, SNP 3120, SNB 3002 are fixed PAL / NTSC. For other cameras there is a setting for changing PAL/NTSC on the Camera Web Gui but this only changes the analog output.
- Samsung cameras have no CGI command for getting autofocus status, and only a few cameras support setting it to on. The handler does not support autofocus property.
- Samsung cameras do not directly support video codec quality, but use compression rate on the MJPEG stream for this purpose. A high level of compression equals a low level of quality. The cameras' valid compression value range is 1-20. NVR reverse converts it to 5-100%. Quality is not supported for H.264 or MJPEG4 for any cameras.
  SND-3080 does not support MJPEG stream compression. The camera’s web page has a quality setting, but there is no specified API. So, the handler will not support MJPEG stream quality for this camera.
- Most APIs of the camera run very slowly. Test results found setting a factory default can speed up the response. Therefore, before adding a camera to the NVR, setting the camera to factory default is recommended.

  Test results:

  - Changing resolution, FPS, quality will take about 30 seconds;
  - Adding camera to NVR can take more than 15 s.
  - Needs about 60s to display video when changing stream from stream 1 to stream 2; after clicking the apply button.
  - Enabling dry contact might make the NVR consider the camera as offline, thereby audio tab and dry contact tabs disappear. If this happens, click **Refresh**
- Do not change the camera's video profile settings on the Camera Gui when the camera is added to the NVR, otherwise changing FPS, resolution, bitrate or creating video stream may fail. Also after the camera is added into NVR, the user MUST not change the current video standard setting, or change the 2M/3M setting on the SND 7080.
- For SPE-400, each Samsung encoder's channel has an independent IP. To add an encoder to the NVR, the user should add every channel one by one. Only the first channel supports audio. Each channel supports 1 AlarmIn.
- Some of the camera information (e.g. FPS ranges) provided by Samsung Support differs from the camera's actual capabilities as found on the Web Gui. The Handler uses API results for these details.

- On SNZ 7080, SND 5080, SNV 5010, SNB 3002, valid FPS for MJPEG is limited to “1-5” if "E-mail/FTP profile" or "Record Profile" is enabled on the Camera Gui. To get full FPS of 1-30, the user must make (on camera webpage) another MJPEG profile for "E-mail/FTP profile" and "Record Profile".
- On SND 5080 and SNV 5010, after changing resolution, the valid FPS range will also be changed. Camera's current FPS will be set to the max (if prior FPS was larger than the new max value) or min (if prior FPS was smaller than the min).
- On SND 5080 and SNV 5010, after changing resolution, valid max bitrate will be changed. Camera's current bitrate will be set to the min one (if prior bitrate was smaller than the new min value), otherwise it will be set to the max one.
- MJPEG quality on SNZ-5200, SNP 5200 and SNP 3371 can be very bad at higher FPS, even when setting quality to 100. No such limitation on other models.
- Dual streaming will reduce the FPS. If both streams are set to 30 FPS, you will get approximately 15 FPS on each stream. Reducing the FPS on Stream 2 will increase the FPS on Stream 1. This has been confirmed as a camera limitation by Samsung.
- If you enable audio on H.264 or MPEG4, the FPS will drop roughly in half. This is because the camera opens another video stream and extracts the audio from it.
- Some cameras (SND-3080 and cameras covered by it) cannot provide MPEG4 and H.264 at same time. They can support either H.264 & MJPEG or MPEG4 & MJPEG. Before adding this camera to the NVR you must go to 'Setup' on the camera web gui and choose “video select” as either H.264 or MPEG4. The user must not change this setting when the camera is already added to the NVR.
- Generic Handler Limitations:
    - The camera MUST be able to provide at least two profiles, and the codec of profile1 MUST be H.264, the codec of profile2 MUST be MJPEG;
    - The camera MUST support set/get FPS with real FPS value (not the index of it in valid FPS list). For example, if a camera's valid FPS are "1-25", should support by giving "1-25" itself, not only support "0-24" as index.
    - The camera MUST support set/get resolution with forward index. For example: if the supported resolutions that are given by camera are: 1024x768,640x480,1280x720,800x600, handler assume the index is based zero and start from 1024x768. Then if handler wants to set 1280x720 to camera, the index is '2'.
    - Handler uses TYPE2 (Samsung different cameras use different APIs, defined in their formal datasheet, named TYPE1 and TYPE2, TYPE2 is used by most cameras) command to communicate with generic camera.
    - Generic camera does not support PTZ, lens and image settings. For codec settings, there are some limitations:
        - The compression (generic uses it as quality) valid value MUST be continuous from 1-20, 1 is best, 20 is worst;
        - The GOP valid value MUST be continuous from 1-15;
    - Default values of codec properties:
        - Default FPS is the middle one (if the middle one is not supported, use previous one); For example, if valid FPS are 1,2,3,4, default value is '2', if the valid FPSs are "1,2,3", default value is '1';
        - Default Quality is 70;
        - Default resolution is the first one in the valid list. For example, if the valid resolution list which giving by the camera is:

1024x768,640x480,1280x720,800x600, handler use '1024x768' as default.

•Default key frame interval is 14.

Known Issues

- Several cameras' (such as SNZ-5200, SND-5080, SNP-3430H, SNP-5200, SNV-5010, SNZ-5200) valid resolutions are not listed in min-max (image width) order. It is because these cameras use resolution index to communicate with the camera, and their resolutions are not ordered from min to max.
- Although the key cameras in some groups (SND-3080, SND-7080) support brightness, some cameras covered by them do not support it, so the NVR web image page will display the brightness property value as BLANK.
- When the resolution is lower than 800x600, the image's bottom edge may have a mosaic or color block.
- There seems to be duplicate Timestamps on NVR, especially with a higher FPS. This issue causes the NVR to sometimes restart the video stream.
  At higher FPS, the count of duplicate timestamps is increased
  When the issue happens, NVR4.2.1, 4.3, 4.4, 4.4 log will report a [isLargeTimeChange] issue.The vendor confirmed they have found this issue.
- For SPE series and SNB-3000 series (for example, SND-3080), AlarmIn reacts very slowly. It can be up to 4 seconds from manually triggering AlarmIn pins before the camera reports the alarm.
- For SND-3080, camera may report false alarms for both AlarmIns when setting active state for any AlarmIn. When the active state is set to HIGH, the camera randomly reports false alarm status, which will cause wrong alarms in NVR.
- Live view latency is about 500ms (H.264, MJPEG, MPEG4).
- If FPS is too low, RTSP connects to camera may timeout and then the NVR will have no video. The following cameras were found to have this issue:
  - For SNV-5010 and SND-7080, the MJPEG video will not display when the user sets fps to 1 and resolution to less than 1280*720.
  - For SND-3002 and SND-5080, the MPEG4 video will not display when the user sets FPS to <=5.
- Video and audio are sometimes out of sync on Instant Playback and Search & Retrieve in victor.
- Samsung SND 7080 gives a blurry / melting screen on victor at 320x180, 640x480, 800x600, 800x450 and 1920x1080 resolutions on H.264 stream. This is a confirmed issue with Samsung due to a multi-slice algorithm which is not supported by the NVR. Enabling a second stream or an audio stream fixes this. Samsung have confirmed this and it may also affect. SNB-5000, SND-5080, SND-5080F, SNV-5080, SNV-5080R, SNV-5010, SNO-5080R, SNB-7000, SND-7080F, SNV-7080, SNV-7080R, SNP5200, SNO-7080R, SNP6002.
- Samsung SND 7080 shows an incorrect TimeStamp on Victor when on single stream. This is also due to the multi-slice algorithm.
- PTZ Controls will not work on the SNP 3120 using 1.26_120402 firmware. This is a camera firmware bug.
- Quickly adding PTZ presets caused the SNP 5200 to auto zoom in.
- NVR has a known limitation. Right after adding the camera into the NVR, enable second stream (by enabling Live, Record, Alarm or Analytics), and then click “Apply”, the NVR will report an error message like: “Could not get unused Stream for Stream 2, codec H.264”. This is because

Samsung handler does not support H.264+H.264 but the NVR wants to use this group. To avoid this issue, after enabling the second stream, the user must change the codec type so it is a different codec to Stream 1.

- Changing property may fail to update correctly if the following operations are done together, before clicking [Apply] button: enable secondary stream, change the codec type to MJPEG, change the property (FPS, resolution, etc). If this issue occurs, change the property again.
- When connecting to UD8 analog camera, Samsung encoder SPE-400 combined PTZ not working with keyboard control.
- When adding a Samsung camera to NVR, the bitrate control will be set by default to CBR. This can be changed on the NVR after adding the camera.

Special Points

- Some cameras (SNP-3430H, SND-3082, SNB-2000, SNB-3000, SNV-3080) have big differences to the key camera which were confirmed by the vendor. The handler changed the key camera or used Generic camera to represent them.
- If added into an NVR, cameras should not be modified outside of the NVR, or the NVR may not work properly.
- As confirmed by Samsung, F/W upgrade/downgrade problems happen frequently with SNP-3120 series. Please use the Supported Firmware Version only, and be careful when upgrading / downgrading camera of SNP-3120 series. Downgrading to 1.22_110120_1 firmware also resets the camera to default IP.

Camera Generation

Generation	Model Family
3rd Generation Cameras	SNC-CS50N/P, DF50N/P SNC-DF80N/P, DF85N/P SNC-RZ50N/P, RX530N/P SNC-RX550N/P, RX570N/P
4th Generation Cameras	SNC-CM120 SNC-CS20 SNC-DM110, DM160 SNC-DS10, DS60
5th Generation Cameras	SNC-CH110, DH110, DH110T SNC-CH210, DH210, DH210T SNC-CH120, CH160, CH220 SNC-DH120, DH120T, DH160 SNC-DH220, DH220T, DH260 SNC-CH140, CH180, CH240 SNC-CH280, DH140, DH140T SNC-DH180 SNC-DH240, DH240T, DH240 SNC-CH260, DH260, DH280 SNC-RH124, RH164, RS46N/P SNC-RS44N/P, RS86N/P, RS84N/P SNT-EX101, EX101E, EX104 SNT-EX154, EP104, EP154 SNC-EP520 SNC-EP521 SNC-EP550 SNC-EP580 SNC-ER520 SNC-ER521 SNC-ER550 SNC-ER580 SNC-EB520 SNC-EM520 SNC- EM521

Supported Key Functions

- Video Streaming – Single and Dual
    - Video Codec – MJPEG, MPEG4 and H.264
- Audio Streaming
    - Audio codec supported depends on camera functionality
- PTZ – applies to cameras with mechanical pan, tilt and optical zoom
- Dry contact events – HTTP server push functionality is available for increase in efficiency and speed of obtaining dry contact events

Unsupported Key Functions

- Find devices
- Power-off devices
- Get device log
- Reset to factory default
- Digital PTZ – on cameras that support internal digital PTZ

Audio/Video Stream Feature

- Changing the stream settings such as codec, resolution, FPS or quality of a selected video stream may require up to 5 seconds of time delay to re-establish the video stream.
- Video quality settings for MJPEG can range from 1–10. VE-NVR normalized values are 10–100 with increment step of 10. Video quality setting is not applicable for MPEG4 or H.264.
- Video bit-rate control settings for MPEG4 and H.264 must be done via the camera web page.

Required Network Parts

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: admin
- Password: admin

Limitations

The following limitations which apply to the previously released 5th generation cameras also apply to all new SONY camera models documented in this release:

- PTZ functions are not supported on all SONY Encoders due to the SONY API performance limitation.
- Relative Focus and Iris are not supported on all SONY Encoders.
- Relative iris is not supported, which means Victor client won't be able to adjust the Iris. However the absolute Iris adjustment is available through NVR or Camera web page.
- Due to a limitation in NVR motion detection stream selection algorithm, the MPEG4 stream cannot be utilized for motion detection. This limitation requires quality setting in the MPEG4 stream, which is not supported by the cameras.
- The NVR supports dual-streams for SONY 5th generation cameras with some camera performance limitations. Please refer to SONY camera documentation for more information. Recommendations:
    - •Refer to the Camera GUI to determine possible available dual stream combinations before setting the stream configuration in the NVR. Resolution, FPS and quality settings in stream 1 will affect the possible configuration settings for stream 2.
    - •If the resolution of the primary stream is much larger than 640x480, create a secondary stream, at 640x480 or less.
    - •On some cameras, configuring Stream 1 to a high resolution and frame rate settings with H.264, the camera may not allow dual stream. In such case, an attempt to enable the motion detection meta data will fail.
    - •The NVR in some cases may detect an attempt from a user to set a non supported dual stream combination and will report an error. It will then automatically configure the stream to its known limitation, according to what is shown on the camera GUI
    - •The configuration limits available for a secondary stream might be different between two cameras of the same model, same firmware level, and same primary stream configuration depending on some other camera configuration choices, such as Wide-Dynamic-Range (which, in some implementations, may cut the maximum available frame-rate in half).
    - •Over-configuration of streams can have different results on different camera models. In some instances, the camera attempts to run the configuration with a result that camera responses to direct commands become slower and slower. To recover from this over-configured settings may require camera reboot using the direct camera web interface or camera power-cycle.
    - •It is recommended to change stream parameters (Codec, FPS, Quality, and Resolution) one step at a time, as repeated and excessive stream changes can cause the camera to continuously alarm on the NVR/Victor Client. Power cycling or rebooting the camera will normally clear the fail condition.
- The web client camera details screen will mark MJPEG video resolutions that are greater than 2040 pixels in width or height as "unsupported". An attempt to select and apply an "unsupported" resolution from the drop down list will fail.
- An unrecognized SONY camera configured as SONY Generic will be assumed to be 5th-generation, with resolution choices comparable to CH220, CH260, DH220, DH260 -- 1920x1440 max, 320x240 minimum. If that camera is configured (from the camera GUI) to have a max

resolution of 1920x1080, then an alternate list of resolutions is used with 320x192 min. The available FPS are consistent with other 5th-generation cameras. The optional VPA and Lens properties are configured as EMPTY and controls would not be offered. Dual streams with H.264, MPEG4, and MJPEG would be available, but there would be no audio and no contact alarms. The PTZ functionality will work if the PTZ camera is compatible with 5th-generation PTZ cameras.

- An invalid password group will cause the MAC address field and some VPA and Lens properties to display “unknown”. Errors will occur when attempting to change the FPS, resolution, quality or VPA and Lens properties.
- When there is a MPEG4 recording, set the resolution and fps value first before enabling audio. If fps or resolution must be changed after the audio, be sure to disable, re-enable and re-configure the audio to avoid 1 second audio lag in play back.
- SONY 5th generation cameras set with motion-detection using MJPEG will present the limitation that if H.264 has been used for the primary stream, it cannot be used for the secondary
- Digital PTZ is not supported.
- VideoEdge NVR Web Client has a resolution limitation with SONY megapixel cameras, and won’t display video with resolution of width or height at 2048 pixels or higher.
- Due to the above limitation, it is recommended to set the aspect ratio of CH210, DH210/210T to 16:9 prior to configuring them on VideoEdge NVR. The 4:3 aspect ratios can be set after they are configured on the NVR. However, re-adjusting the FPS, resolution may be necessary for them to work properly with the NVR

Known Camera Limitations

Model(s)	Known Camera Limitation/Behavior	Notes
All encoders	The relative Pan & Tilt are the only two PTZ functions supported. The Pan & Tilt capability is only available in Web client. They do not work in victor client	
SNC-RZ50	PTZ functions are not supported	
All 3rd Generation Cameras	Required Set up Procedure for Dry Contacts: • Dry Contact Settings on both camera Web Gui and NVR must be set to normally closed. SONY 3rd generation cameras do not support dual streams	The required set up ensures correct signal being generated when sensor is triggered. MJPEG, MPEG4, H.264 are supported
All 4th Generation Cameras	Due to the camera performance limitation on the RTSP/RTP protocol the camera can support only 1 video stream, either MJPEG or MPEG4	

Model(s)	Known Camera Limitation/Behavior	Notes
SNT-EX101, SNT-EX104	Camera Focus does not work on Victor Client. This is because Victor Client uses “PTZSpeed” method to implement Focus. 4.3, 4.4.0 SONY Handler does not support PTZSpeed.	Login cam web GUI to focus
SNT-EX104	Due to camera performance issue, video and audio frame loss may occur in SONY encoder.	
SNC-EP580	Video becomes unavailable after changing from H.264 to MP4V in some settings, e.g., Sometimes, video may become unavailable after changing H.264@1080p@30fps directly to MP4V@1080p@20fps on NVR. No error message is displayed on NVR web page but camera codec setting remains un-changed.	In the case video becomes unavailable after changing from Stream 1 of camera must be changed to MP4V using camera’s web GUI before changing codec from H.264 to MP4V stream on NVR.
SNC-EP580, SNC-ER520, SNC-RH124	Enabling blc will fail if auto IRIS is disabled.	Required Steps for enabling blc for IRIS: **1** Set Auto Iris mode to auto, **2** Set blc to on.
SNC-EB520	MJPEG video can't be streamed simultaneously on both NVR and camera web gui for the following settings: **1** FPS30 704x576 **2** FPS30 720x576.	
SNC-EP580, SNC-EP520, SNC-EP521, SNC-EP550	MJPEG Single Stream Limitation MPEG4 FPS Limitation MPEG4 Stream Limitation	When camera resolution is set to MJPEG@1920x1280@any fps > 6 on videoedge, camera will select its own settings and disregard user’s setting from NVR. FPS for MPEG4 stream has maximum value of 20. Video loss may occur when camera is set to mp4v@1080@20fps.

Model(s)	Known Camera Limitation/Behavior	Notes
All 5th Generation Cameras	Dual Stream Limitation	Over configuration issue described in this release notes document applies to Dual streaming. When resolution is setting is too high for camera to accommodate, camera will select its own settings and disregard user's setting from NVR. Workaround may not be available in some cases. See (Note1-Note5) for details.
SNC-ER520	On camera web page, the resolution of Image 2 can't be higher than Image 1. If image1 resolution is 640x480 or higher, the highest fps of both images is 15. In the case when nvr only have one single stream enabled, user must check if there are 2 streams enabled on camera via camera web gui. User should use the camera web gui to disable stream 2 before selecting the max resolution and fps settings for stream 1 on NVR The SONY SNC-ER520 has a slower camera inquiry CGI response time than other SONY camera models. The camera inquiry CGI response time for this camera is about 0.85 seconds.	The slower CGI response doesn't cause any NVR timeout issues. User may experience slow NVR response when do the configuration on NVR.

Model(s)	Known Camera Limitation/Behavior	Notes
All SONY Cameras	**1** Set camera to factory default via camera web gui or SNC toolbox before adding the camera to NVR **2** Retrieving camera configuration on NVR does not required authentication.	SONY camera CGI Get commands does not require authentication.
	Due to SONY camera over-configuration issues, camera may not respond to the following resolution change request. If this happens, camera will return its own setting. For example: *From*: H.264@5fps 640x480 MJPEG@5fps 640x480 *To*: H.264@5fps 720x576 MJPEG@5fps 640x480	In this case, user will see the newly requested resolution setting listed on NVR. No error message is displayed on NVR. User must refresh NVR screen and check camera setting via camera web gui to confirm if change request is executed successfully. Workaround: Repeat command on NVR
	Bit rate behavior is inconsistent for different models	Bit rate may not be set successfully in NVR 4.3, 4.4 but it will be normal in NVR 4.4
All Models	The focus value is set from 0-45056, which is not user-friendly.	Workaround is to enable autofocus , or change settings on Camera Web GUI
SONY Generic	The SONY Camera Handler supports generic cameras for those unlisted models. If one camera is not in the supported list, but is compatible with the SONY interface, it can be supported as a generic camera.	

Known Issues

Model(s)	Known Camera Limitation/Behavior	Notes
All Megapixel Models	The QuickTime plug-in/player may not be able to live view video from the megapixel cameras at their highest resolution and 1fps.	
All 4th Generation Cameras	The victor Client video reverse play back on Search and Retrieve as well as exported clips is not as smooth as expected.	
All models that support audio	The NVR & victor client does not support playback G726 audio with bit rate of 24kps.	
RH124/DH180	When focusing in victor, the image can be focused but the listed focus value on NVR is always 0	
All models	If one camera with dry contact enable in NVR is offline, it will slow response to click alerts tab and change the dry contact status in NVR. It may take 30s to show the alert page, and take 60 to change dry contact active state.	Workaround: Remove offline defects
SNC-DH180	The focus value range doesn't match with the range of the handler encoder profile. The focus value range is 0-2399 in sony handler encoder profile, but 0-2345 in NVR web page.	No workaround
SNC-EB520	Camera supports 600x800. However this resolution is not listed in the camera resolution list on the NVR.	No workaround

Model(s)	Known Camera Limitation/Behavior	Notes
All Models	Unable to retrieve Stream 1 properties". / "Unable to retrieve camera configuration". The above errors may be displayed on NVR's camera stream configuration page after user edits the video stream setting(s). Due to camera limitation, camera fails to response to NVR's CGI command within predefined NVR timeout of 5 seconds. NVR timeout occurs.	To recover Stream properties, Refresh Camera configuration page
All models that support audio	When audio is streaming in victor and audio codec/bitrate is changed through NVR the audio streaming through victor becomes a static noise.	Disabling and re-enabling audio using the audio icon in victor fixes the issue and it becomes a clear sound again.

URLs For Acquiring Video and Audio via RTSP

Camera Generation	Video URL	Audio URL
3rd Generation Cameras	rtsp://<user>:<password>@<cam ip address>:554/media	rtsp://<cam ip address>/media/audio
4th Generation Cameras	rtsp://<user>:<password>@<cam ip address>:554/media	rtsp://<cam ip address>/media
5th Generation Cameras	rtsp://<user>:<password>@<cam ip address>:554/media/video<stream ID>	rtsp://<cam ip address>/media/audio

Vivotek Corp.

Supported Key Functions

- Video Streaming - Single and Dual
    - Video Codec - MJPEG, MPEG4 and H.264
- Audio Streaming
    - Audio Codec - G711 PCMU
- PTZ
    - Applies only to cameras that have mechanical Pan, Tilt and Optical Zoom
- Dry Contact Events
- Query Device

Supported Camera API & Models

Supported devices are suggested by the vendor and they are divided into two categories: key models and non-key models. Non-key models utilize the same firmware as key models, and are covered by key models. The Handler is developed based on key models. Non-key models were not tested.

Model	Min. Camera Firmware Version
FD8136	0101a
FD8135H FD8335H	0201a
FE8171V FE8171	0100h
FE8172 FE8172V	0101c
SF8172 SF8172V	N/A
AF5127 AF5127V	N/A
IP8362	0101b
SD8313E	0202b
SD8362E	0201c
PZ8111 PZ8121 PZ8111W PZ8121W	0104a 0104a1 (experimental Firmware)
VS8801	0201c
Generic	N/A

Note

The Vivotek camera handler supports Generic camera for those unlisted models. Models not listed above can be added as generic models. Handler will provide features according to its capabilities. However, as information that can be dynamically acquired from the models is limited, generic models may not perform as well as models listed above.

Key and Non-Key Models

Key Model	Covered Non-Key Model(s)
FD8136	
FD8135H	FD8335H
FE8171V	FE8171
FE8172	FE8172V, SF8172, SF8172V, AF5127, AF5127V

Key Model	Covered Non-Key Model(s)
IP8362	
SD8313E	SD8323E, SD8312E, SD8322E, SD8311E, SD8321E
SD8362E	
VS8801	
PZ8111	PZ8121, PZ8111W, PZ8121W
Generic	All other Vivotek models

Required Network Ports

- Port 80 is for HTTP
- Port 554 is for RTSP

Default Username & Password

- Username: root
- Password: (none)

Camera Serial Number

NVR will use the camera's MAC address as the camera serial number

Video/Audio/Event Stream Feature

Models	Features			
	Video	Audio	Dry Contact	PTZ
Generic	Codec: H.264 or MPEG4 or MJPEG (depends on camera capability) Dual Stream: (depends on camera capability)	(Depends on camera capability)	(Depends on camera capability)	(Depends on camera capability)
FD8136	Single Stream: H.264, MPEG4, MJPEG Dual Stream: H.264+ H.264 H.264 + MPEG4 H.264 + MJPEG MPEG4 + MPEG4 MPEG4+MJPEG MJPEG+MJPEG	Codec: G711 (PCMU)	1 alarm inputs with active status, polling mode	Flip
FD8135H (see notes 1 & 2 below) FD8335H	Single Stream: H.264, MPEG4, MJPEG Dual stream: H.264 + H.264 H.264 + MPEG4 H.264 + MJPEG MPEG4 + MJPEG MJPEG + MJPEG Note: MPEG4 is not supported due to a camera limitation	Codec: G711 (PCMU)	3 alarm inputs with active status, polling mode	Flip

Models	Features			
	Video	Audio	Dry Contact	PTZ
FE8171V (see note 1 below) FE8171	Single Stream: H.264, MPEG4, MJPEG Dual stream: H.264 + H.264 H.264 + MPEG4 H.264 + MJPEG MPEG4 + MJPEG MJPEG + MJPEG Note: MPEG4 Is not supported on dual stream due to camera limitation	Codec: G711 (PCMU)	1 alarm inputs with active status, polling mode	Flip
FE8172 (see notes 1 and 3 below) FE8172V SF8172 SF8172V AF5127 AF5127V	Single Stream: H.264, MJPEG Dual stream: H.264 + H.264 H.264 + MJPEG MJPEG + MJPEG	Codec: G711 (PCMU)	1 alarm inputs with active status, polling mode	Flip
IP8362 (see note 1 below)	Single Stream: H.264, MPEG4, MJPEG Dual stream: H.264 + H.264 H.264 + MPEG4 H.264 + MJPEG MPEG4 + MPEG4 MPEG4 + MJPEG MJPEG + MJPEG	Codec: G711 (PCMU)	1 alarm inputs with active status, polling mode	Flip

Models	Features			
	Video	Audio	Dry Contact	PTZ
SD8313E (see note 1 below) SD8323E SD8312E SD8322E SD8311E SD8321E	Single Stream: H.264, MPEG4, MJPEG Dual stream: H.264 + H.264 H.264 + MPEG4 H.264 + MJPEG MPEG4 + MPEG4 MPEG4 + MJPEG MJPEG + MJPEG	Codec: G711 (PCMU)	3 alarm inputs with active status, polling mode	Absolute, continuous, stepped, zoom, focus, flip, preset
SD8362E (see notes 1 and 4 below)	Single Stream: H.264, MPEG4, MJPEG Dual stream: H.264 + H.264 H.264 + MPEG4 H.264 + MJPEG MPEG4 + MPEG4 MPEG4 + MJPEG MJPEG + MJPEG	Codec: G711 (PCMU)	3 alarm inputs with active status, polling mode	Absolute, continuous, stepped, zoom, focus, flip, preset

Models	Features			
	Video	Audio	Dry Contact	PTZ
VS8801 (see notes 1 below)	Single Stream: H.264, MPEG4, MJPEG Dual stream: N/A	Codec: G711 (PCMU)	8 alarm inputs with active status, polling mode	Stepped, zoom, focus, flip, preset
PZ8111 (see note 1 below) PZ8121 PZ8111W PZ8121W	Single Stream: H.264, MPEG4, MJPEG Dual stream: H.264 + H.264 H.264 + MPEG4 H.264 + MJPEG MPEG4 + MPEG4 MPEG4 + MJPEG MJPEG + MJPEG	Codec: G711 (PCMU)	1 alarm inputs with active status, polling mode	Continuous, stepped, zoom, focus, flip, preset

Note

1. The models are recommended by Vivotek as key models and other models can be covered by these models. Non key models are supposed to have same features as their key models

2. Only 'Stream 2' of this model supports MPEG4 codec.

3. The Vivotek FE8171 two FOV(Field of View) modes: "Fisheye mode (MAX 15fps)" and "1080P Full HD(MAX 30fps)". Changing the FOV option will erase the motion detection, privacy mask, and preset positions you previously configured. Meanwhile, resolution list, frame rate list are also changed. This setting should NOT be changed after the device is added into NVR, or it may cause error.

4. The model has two FOV (Field of View) modes: "Full HD(MAX 1080P 30fps)" and "Exceptional frame rate(720P 60fps)". Changing the FOV option will have resolution list, frame rate list changed. This setting should NOT be changed after the device is added into NVR, or it may cause error.

Video

RTSP URL for getting the stream from camera:

- *rtsp://<ip>/live.sdp* for stream 1
- *rtsp://<ip>/live<num>.sdp* for stream 2 or above (<num> = stream number)

Audio

The handler support the following audio codec:

- G711
- PCMU;

There is no dedicated URL for audio streaming. Audio and video are originally mixed in the stream out of camera. Handler extracts the audio stream from the mixed stream with the RTSP SETUP command.

Dry Contact

The handler supports dry contact:

1 Interface Count - The dry contact count varies for camera models - it is got dynamically from camera

2 HTTP Client Polling is used to monitor alarm status. The polling interval is 250ms

Limitations

1 The VS8801 has the following limitations:

- Vivotek encoders do not support PTZ on Victor Client.
- There is a camera limitation on the video stream performance, if all 8 channels are being used the combined max FPS should be around 20FS. When the limitation is reached, the web client of the VS8801 shows "Note: Frame rates are not guaranteed when all red-marked streams are used." within "Overview" section of "Audio and video" page.
- The encoder has a limitation that changing one channel's audio codec will lead to all other channels' audio codec changed as well.
- Interlace is not supported on the NVR.
- Brightness, Contrast, Sharpness, and Saturation will always be shown as 0 in the NVR, even after users apply non-zero values to them via NVR. This is caused by a camera limitation it is recommended that the user does not change these values on the NVR as errors can be caused. User should change these settings via the camera web client.

2 The mechanical design of the PZ8111 means that Pan and Tilt operations are limited to a certain degree.

3 All PTZ camera models cannot use multiple PTZ operations using a keyboard. The hander carries out the operation that is of a greater percentage than the others for Pan, Tilt, Zoom, Focus and Iris controls.

4 For all PTZ models, Diagonal PTZ is NOT supported.

5 e-PTZ is not supported.

6 The SD8313E and SD8362E: If continuous pan and tilt set are used, the camera will move up to the top, then slowly move toward the direction of the pan command. This is the camera's expected behavior.

7 Panoramic PTZ is not supported. For more information please refer to the Vivotek user manual.

8 When the FE8172 is added to the NVR, if MJPEG is selected the camera is defaulted to constant bit rate. To increase the image quality the users can change the Bit Rate to Fixed Quality on the camera web client before adding to the NVR however this will mean the user cannot stream the camera at the top two resolutions 1536x1536 and 1920x1920.

9 Due to a QuickTime limitation when quality is set to fixed this will cause low frame rates in QuickTime and NVR, this does not affect Victor.

10 Video streaming is unstable at high resolution when light conditions are low. Vivotek suggests setting bit rate control to CBR for more reliable streaming. However users need to be aware that it may produce lower than desired frame rate. In NVR4.3, 4.4 the bit rate control can only be adjusted through the camera's web interface.

11 Vivotek have confirmed Switching from Day mode to Night mode may cause frame drops and video loss, depending on the light condition, complexity of the scene and the resolution setting. Setting the bit rate control to CBR may reduce the video loss.

12 The SD8362 and FE8172 Models are slightly different from all other models:

- They have a particular setting called Field of View (FOV). Resolution list, default resolution, and fps list vary with FOV setting. Once added into the NVR, FOV should not be changed. Otherwise issues may occur. To change FOV, the camera must be removed from the NVR first, then changed before re-added to the NVR.
- These two models support bit rate for MJPEG, which is not supported by any other models. NVR 4.3 does not support bit rate control.

13 For FE8171V, FE8172 and all other fisheye models, MPEG4 is not supported, but H264 and MJPEG are still supported. The NVR cannot play the MPEG4 streams from these models because they have custom data embedded, which will cause the NVR to restart the stream frequently.

14 Some models for example, camera model SD8362 will support FPS greater than 30. However NVR will only support up to 30 FPS.

15 The Following camera models SD8313E, SD8323E, SD8312E, SD8322E, SD8311E, SD8321E all use the same firmware and are regarded by the handler as SD83X3.

16 The Following camera models PZ8111, PZ8121, PZ8111W, PZ8121W all use the same firmware and are regarded by the handler as PZ81X1.

17 The FD8235H and FD8335H do not support dual stream MPEG4.

18 Back light compensation is not supported.

19 Due to camera hardware limitation the frame rates may not reach the highest frame rate.

20 Due to a camera limitation audio on the VS8801 encoder will not work on all channels if the encoder is connected to any other client other than victor for example VLC. The maximum number of connections on the encoder is 16 streams which will allow for one client to be connected to each video and audio stream. To connect all video and audio streams firmware version V0201c or above should be used.

21 Vivotek IP8362- in some circumstances due to low frame rate, high bandwidth and complexity of the scene user may experience Significant video freeze in Client Instant Playback throughout long period of video during night/day mode transition. This should not be observed when using Search and Retrieve.

22 When adding a Vivotek camera to NVR, the bitrate control will be set by default to CBR. This can be changed on the NVR after adding the camera.

Known Issues

1 After a long period the PZ81x1 camera may not show its settings on the NVR camera list web gui. If the web browser is used to see its web client, it will show “503 Service Unavailable. There are too many connections in use right now. Please try again later.” This has been fixed in Firmware version 0104a1 and later.

2 The FD8135H may display Video stutter may occur on MJPEG stream. This is a camera hardware limitation.

Special Points

1. It is recommended when the camera is added to the NVR, That no property parameters are changed on the camera web GUI (unless specified on the release notes)
2. For the following camera models FE8171/FE8172, PZ81x1 or any other model supporting mic and line in - Internal or external microphone must be selected on the device or via camera web client respectively before camera is added to the NVR. The volume controls on the NVR control the external mic, the internal mic can be changed on the camera web client.
3. Wide Dynamic range values are:

FD8135H	0 = off, 1 = on
FE8171, FE8172, IP8362	0 = off, 1 = low, 2 = high
SD8313E, SD8362E	0 = off, 1 = manual, 2 = auto

4. Vivotek cameras / encoders support three different ways to set / get video quality, and keep the quality value of each way. However, at any time only one of them is taking effect. Every time a new way is used to set quality value, this way will take effect with other two stand by, i.e. the last used way will block values of other two ways from taking effect on video (though they still can be got from camera).The way handler uses is called "percentage mode" by Vivotek. Its valid values range from 1 to 100. And camera webGUI uses the other two ways.
5. Vivotek handler enumerates the same bitrate range as camera webGUI does. But custom value is not supported.
6. Vivotek handler support s H.264 profile setting, which is not available on camera webGUI.
7. The Vivotek handler caches the mount type for the fisheye models. Users should NOT change mount type via camera webGUI, or dewarping may not work properly.